

From: [Scott Angelle](#)
To: [Holly Hopkins](#)
Subject: Fwd: Re:
Date: Wednesday, August 8, 2018 2:29:54 PM

Good afternoon. Please see below.

Sent from my iPhone

Begin forwarded message:

From: "Morris, Douglas" <douglas.morris@bsee.gov>
Date: August 8, 2018 at 12:22:15 PM CDT
To: Scott Angelle <scott.angelle@bsee.gov>
Subject: Fwd: Re:

FYI

----- Forwarded message -----

From: Else, Michael <michael.else@bsee.gov>
Date: Wed, Aug 8, 2018 at 10:08 AM
Subject: Re: Re:
To: Douglas Morris <douglas.morris@bsee.gov>
Cc: Paul Schwing <paul.schwing@bsee.gov>

Doug,

The BAST webpage is located @ <https://www.bsee.gov/what-we-do/offshore-regulatory-programs/emerging-technologies/BAST>

The BAST Determination Process is hot-linked (~3/4s way down the BAST webpage) to <https://www.bsee.gov/sites/bsee.gov/files/fact-sheet/bsee-bast-determination-process-final-november-2015.pdf>

The EKD and VGD appear immediately below the aforementioned BAST DP and are hot-linked to:

https://www.bsee.gov/what-we-do/offshore-regulatory-programs/emerging-technologies/bast/early_kick_detection and

https://www.bsee.gov/what-we-do/offshore-regulatory-programs/emerging-technologies/bast/Vented_gas_detection

The BAST webpage also mentions the Public Notice Document (Step 1.5) and the April 17, 2017 Houston Technology Solutions Forum (Step 1.7) where we shared this information with the Public and Stakeholders.

Mick Else - Section Chief, BAST

US Dept of Interior | Bureau of Safety & Environmental Enforcement (BSEE)
Office of Regulatory Programs | Emerging Technologies Branch
[45600 Woodland Road](#) | [Sterling, VA 20166](#) | MS VAE-ORP

On Wed, Aug 8, 2018 at 9:43 AM, Douglas Morris <douglas.morris@bsee.gov> wrote:

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1849

C

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(202)

208-

3974

--

Doug Morris

Chief, Office of Offshore Regulatory Programs

Bureau of Safety and Environmental Enforcement

1849 C Street, NW

Washington, DC 20240

(202) 208-3974

From: [Holly Hopkins](#)
To: [Scott Angelle](#)
Subject: [EXTERNAL] RE: Re:
Date: Wednesday, August 8, 2018 2:33:52 PM

Thanks. Happy to discuss. Yes, Industry is fully aware of the referenced BAST Determination Process mentioned below.

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(202) 208-3974

From: [Scott Angelle](#)
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Subject: Re: [EXTERNAL] RE: Re:
Date: Wednesday, August 8, 2018 2:36:06 PM

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From: [Scott Angelle](#)
To: [Holly Hopkins](#)
Cc: [Monica Mcbrady](#)
Subject: Re: [EXTERNAL] RE: Re:
Date: Wednesday, August 8, 2018 2:46:13 PM

I believe a meeting is in order. I will ask Monica to see if I can schedule a meeting with you next week. Thanks

Sent from my iPhone

On Aug 8, 2018, at 1:43 PM, Holly Hopkins <hopkinsh@api.org> wrote:

I wanted to make sure we were all referring to the same process. Yes, industry participated in the development of this process. Depending upon who you talk to the support ranges from tepid to fully skeptical. There are a few key differences between what industry proposed and what BSEE adopted. If the process had been established by rulemaking (to provide certainty and stability that this process will not change) and if the public comment steps were published in the Federal Register (to ensure adequate public notice) and if any final BAST determination were also made through a rulemaking process (not NTL or other means) there would be broader/wider support from the industry. There is still skepticism that BAST determinations might happen behind closed doors and without adequate public comment. I hope this helps.

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Mick Else - Section Chief, BAST

US Dept of Interior | Bureau of Safety & Environmental Enforcement (BSEE)
Office of Regulatory Programs | Emerging Technologies Branch

[45600 Woodland Road |
Sterling, VA 20166](#)
| MS
VAE-ORP
571.442.3080- Mobile | 703.787.1769 - Office | michael.else@bsee.gov

On Wed, Aug 8, 2018 at 9:43 AM, Douglas Morris
<douglas.morris@bsee.gov> wrote:

Where on the website is it?

Sent from my iPhone

Begin forwarded message:

From: Scott Angelle
<scott.angelle@bsee.gov>
Date: August 8, 2018 at 9:28:34 AM EDT
To: Douglas Morris
<douglas.morris@bsee.gov>
Subject: Re:

Can you please direct me where it is on
website

Sent from my iPhone

On Aug 8, 2018, at 8:24 AM, Douglas Morris
<douglas.morris@bsee.gov> wrote:

Yes, it has been on the public
website and the industry
certainly has copies and have
we have had ongoing
discussions on the process for
early kick detection and gas
methane detection
initiatives...we had discussions
with NGOs on BAST— I don't
remember if we handed them a
copy

Sent from my iPhone

On Aug 8, 2018, at 9:10 AM,
Scott Angelle
<scott.angelle@bsee.gov>
wrote:

Thanks. Any idea

if ngo's and
industry have
been forwarded a
copy? Is it a
public document?

Sent from my
iPhone

On Aug 8, 2018, at
8:07 AM, Douglas
Morris
<douglas.morris@bsee.gov>
wrote:

Yes,
there
was
a
public
workshop
on
Houston
and
we
have
multiple
meetings
over
a
long
period
of
time
with
industry
committees....
OMB
was
given
a
copy

Sent
from
my

iPhone

On
Aug
8,
2018,
at
7:27
AM,
Scott
Angelle
<scott.angelle@bsee.gov>
wrote:

Good
morning.
As
a
follow
up,
has
anyone
outside
of
bsee
been
given
your
final
bast
determination
process
document
for
feedback
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If
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have
any
communications
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ngo's

and
industry
regarding
this
feedback
?

Sent
from
my
iPhone

On
Aug
3,
2018,
at
8:43
AM,
Morris,
Douglas
<douglas.morris@bsee.gov>
wrote:

A
BID
would
provide
the
documentation.

On
Fri,
Aug
3,
2018
at
9:11
AM,
Scott
Angelle
<scott.angelle@bsee.gov>
wrote:

Thanks.
What

is
necessary
to
formally
adopt
the
best
determination
process
?

Sent
from
my
iPhone

>
On
Aug
3,
2018,
at
8:03
AM,
Douglas
Morris
<douglas.morris@bsee.gov>
wrote:

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The
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is
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NGOs
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On
Aug
3,
2018,
at
6:09
AM,
Scott

Angelle
<scott.angelle@bsee.gov>

wrote:

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Thanks.

Should

I

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industry,

ngos

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bsee

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Sent

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On

Aug

1,

2018,

at

9:58

PM,

Douglas

Morris

<douglas.morris@bsee.gov>

wrote:

>>>
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A
joint
industry
association
set
of
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objections
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finished
collaborating
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BAST
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Process.
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Sent
from
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iPhone
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On
Aug

1,
2018,
at
9:24
PM,
Scott
Angelle
<scott.angelle@bsee.gov>

wrote:

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Any
comments
received
worth
noting
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Sent
from
my
iPhone

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>>>>>

On

Aug

1,

2018,

at

9:21

PM,

Douglas

Morris

<douglas.morris@bsee.gov>

wrote:

>>>>>

>>>>>

Production
safety
systems
rule

>>>>>

>>>>>

Sent

from
my
iPhone
>>>>>
>>>>>>
On
Aug
1,
2018,
at
7:35
PM,
Scott
Angelle
<scott.angelle@bsee.gov>
wrote:
>>>>>>
>>>>>>
I
know
I
asked
this
before
so
I
apologize
for
being
redundant.
What
>>>>>>
proposed
rule
did
we
ask
questions
on
bast
?
>>>>>>
>>>>>>
Sent
from

my
iPhone

-
-
Doug
Morris
Chief,
Office
of
Offshore
Regulatory
Programs
Bureau
of
Safety
and
Environmental
Enforcement
[1849](#)
[C](#)
[Street,](#)
[NW](#)
[Washington.](#)
[DC](#)
[20240](#)
[\(202\)](#)
208-
3974

--
Doug Morris
Chief, Office of Offshore Regulatory Programs
Bureau of Safety and Environmental Enforcement
1849 C Street, NW
Washington, DC 20240
(202) 208-3974

From: [Center for Offshore Safety](#)
To: [Scott Angelle](#)
Subject: [EXTERNAL] Regulatory Leadership Panel - 2018 Sixth Annual COS Forum
Date: Thursday, August 9, 2018 1:26:46 PM

COS-FORUM_REGISTER-NOW_BANNER_590x80



Don't miss the Regulatory Leadership Panel on Tuesday, September 18th at the COS Forum.

Hear from Regulatory leaders, Scott Angelle, Director of BSEE, and Rear Admiral John Nadeau, Assistant Commandant for Prevention Policy of the U.S. Coast Guard. The session, including presentations by both senior leaders and a moderated discussion, will be focused on safety, safety management, and future regulatory activity.

[Register Today](#) Pre-registration will close August 31st.

A preliminary copy of the agenda is now available and can be viewed [here](#).

Don't forget to make a room [reservation](#) within the room block by August 31st.

For more event information about the Forum, please visit the 5th Annual COS Forum [website](#).

When: September 18 - 19, 2018

Where: Westin Houston Memorial City 945 Gessner, 4th Floor, Houston, Texas

[Register Now](#)

Having trouble with the link? Simply copy and paste the entire address listed below into your web browser: <http://www.cvent.com/d/BgGUTDFPQumy4G0qLhcmlA/8741/P1/1Q?>

If you no longer want to receive emails from Ashley Parkins please click the link below.

[Opt-Out](#)



From: [Center for Offshore Safety](#)
To: [Scott Angelle](#)
Subject: [EXTERNAL] Early Bird Rate Ends Friday - 2018 Sixth Annual COS Forum
Date: Wednesday, August 15, 2018 1:47:42 PM

COS-FORUM_REGISTER-NOW_BANNER_590x80



Don't miss out on the early bird rate for the 2018 COS Forum at the Westin Houston Memorial City hotel on September 18 - 19, 2018. Rates will increase after August 17th.

Register [here](#) today! A preliminary copy of the agenda is now available and can be viewed [here](#).

Participate in one of the break out sessions on September 18th and 19th. Breakout sessions will cover the following:

Tuesday, September 18th

Developing & Managing Procedures

The number one area for improvement identified from 2013-16 COS members' incident data is the development and management of procedures. It will be revealed at the Forum if this trend continued in 2017. This breakout will review what may be at the root of the issues and real remedies for solving the problem through presentations from a broad spectrum of stakeholders. The presentations are sure to spark good brainstorming on where industry needs improvement.

Defining & Evaluating Barriers

What is a "barrier"? What does it mean that a barrier has integrity? What is an effective barrier? This interactive breakout session will focus on discussing the different answers to these questions and the ongoing COS work in developing an industry good practice around evaluating barriers.

Assessing & Improving Management Systems

In this breakout, we will review the proposed API RP 75 Element: Assessment and Improvement. The Element describes what should be established, implemented, and maintained to assess and improve your management system. Participants will discuss how this might be accomplished and whether a good practice should be developed to aid companies in successfully achieving desired results.

Wednesday, September 19th

How Can We Improve Procedures?

In an action taken from the 2017 COS Safety Forum breakout, COS has formed a work group to create a good practice on the development and management of procedures. The work group co-chairs will take you through the work that has been completed thus far and moderate an interactive discussion on honing into where industry can collaborate to make a breakthrough on this stubborn deficiency within our management systems.

What Else Should We Be Working On?

How else can industry continue to collaborate to improve safety?

How Do We Know Maintenance is Working?

Maintenance, inspection, and testing ensure our assets and equipment keep working and remain fit for purpose. This breakout session will focus on collaborating on how to measure these critical processes, where we can get better information about them, and potential next steps industry can take.

Don't forget to make a room [reservation](#) within the room block by August 31st.

For more event information about the Forum, please visit the 5th Annual COS Forum [website](#).

[Register Now](#)

Having trouble with the link? Simply copy and paste the entire address listed below into your web browser: <http://www.cvent.com/d/BgGUTDFPQUmy4G0qLhcmlA/8741/P1/1Q?>

If you no longer want to receive emails from Ashley Parkins please click the link below.

[Opt-Out](#)



From: [Holly Hopkins](#)
To: [Scott Angelle](#)
Cc: [Preston Beard](#)
Subject: [EXTERNAL] Today
Date: Thursday, August 16, 2018 7:01:23 AM

Unfortunately, I can not come to DC today. I [REDACTED] (b) (6)
[REDACTED]. I can talk by phone at 1 today or we can reschedule for tomorrow or next week. I'm so sorry for the inconvenience.

From: [Scott Angelle](#)
To: [Holly Hopkins](#)
Cc: [Preston Beard](#)
Subject: Re: [EXTERNAL] Today
Date: Thursday, August 16, 2018 7:32:10 AM

No worries. (b) (6) Another time in person is preferred

Sent from my iPhone

On Aug 16, 2018, at 7:01 AM, Holly Hopkins <hopkinsh@api.org> wrote:

Unfortunately, I can not come to DC today. (b) (6)
(b) (6) I can talk by phone at 1 today or we can
reschedule for tomorrow or next week. I'm so sorry for the inconvenience.

From: [Ashley Parkins](#)
To: [Scott Angelle](#)
Subject: [EXTERNAL] Registration Confirmed - 2018 Sixth Annual COS Forum
Date: Monday, August 20, 2018 8:54:12 AM

COS-FORUM_GENERAL_BANNER_590x80



Dear Scott,

Your registration for the 2018 Sixth Annual COS Forum is confirmed.

Event Dates: Tuesday, September 18, 2018 - Wednesday, September 19, 2018

Location: Westin Houston Memorial City

945 Gessner, 4th Floor, Houston, Texas 77024, USA

Confirmation Number: G4NMJWQNGHB

To view your current registration details, please click on the link below.

[Click here](#)

Hotel Information

The Center for Offshore Safety has reserved a discount room block at the new Westin Houston Memorial City for \$199 a night for a single/double room. You may reserve a room at this group rate online [here](#). This rate is also available 3 days before and until 3 days after the meeting. The cut-off date for making reservations is Friday, August 31st at 5:00 pm Central. After this date hotel reservations will be accepted on a space available basis.

We look forward to seeing you there!

Connect with Us!



Having trouble with the link? Simply copy and paste the entire address listed below into your web browser:

<http://www.cvent.com/d/BgGUTDFPQUmy4G0qLhcmlA/8741/P1/OR?>

If you no longer want to receive emails from Ashley Parkins please click the link below.

[Opt-Out](#)



From: [Holly Hopkins](#)
To: ["scott.angelle@bsee.gov"](mailto:scott.angelle@bsee.gov)
Cc: [Doug Morris \(douglas.morris@bsee.gov\)](#); [Lars Herbst \(lars.herbst@bsee.gov\)](#); [Candi Hudson](#)
Subject: RE: BSEE Sponsored Study
Date: Thursday, August 30, 2018 10:03:25 PM
Attachments: [API final draft letter to BSEE 08302018.pdf](#)

Scott,

As you know, API and our members are committed to safety as well as continually improving training, operating procedures, technology and industry standards. As such, we appreciate the interest of BSEE and the National Academies in standards development activities related to safety. However, we have some concerns regarding this recently published National Academies report entitled "High-Performance Bolting Technology for Offshore Oil and Natural Gas Operations." As part of this commitment API and Industry formed a multi-segment workgroup to address issues related to subsea bolts and fasteners. These experts have reviewed the report and provide the attached information for consideration. API appreciates the opportunity to work with BSEE to continue to advance our shared objective of safe offshore operations. If you have any questions, please contact me.

Thanks,
Holly

From: BSEE Public Affairs <bseepublicaffairs@opa.bsee.gov>
Sent: Thursday, June 21, 2018 3:00 PM
To: Holly Hopkins <hopkinsh@api.org>
Subject: BSEE Sponsored Study

If you are having trouble reading this email, [read the online version](#).



BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT
Office of Public Affairs
For Immediate Release

June 21, 2018

Contact:
Greg Julian, Press Secretary
Gregory.Julian@bsee.gov
(202) 208-3985

**BSEE-Sponsored Study Identifies Strategies for Improving Safety and Mitigating Risks
in Offshore Oil and Gas Operations**

*Report identifies optimal material properties and coating requirements for undersea bolts on
offshore oil and gas drilling rigs*

WASHINGTON - The Bureau of Safety and Environmental Enforcement's Interagency Bolt Action Team (IBAT) met Thursday to discuss the recommendations in a new report from the

National Academies of Sciences, Engineering, and Medicine that identifies strategies for improving the reliability of bolts used in offshore oil and gas drilling rigs.

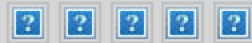
The objective of the BSEE-sponsored study was to determine the optimal material properties and coating requirements associated with fasteners used in critical safety components and equipment in offshore oil and natural gas subsea operations, thereby mitigating the risks of critical offshore connector equipment failures.

Although no major oil spills have resulted from the failure of a bolt fastener, there have been minor oil releases and near misses caused by unexpected bolt failures. In an ongoing effort to address recurring safety issues, BSEE hosted a public forum in August 2016 on critical offshore connector equipment failures, and also chartered the IBAT in September 2016 to share expertise, data, and experience and develop best practices on fastener safety.

More information regarding BSEE's risk mitigation efforts for bolts can be found [here](#).

The [High-Performance Bolting Technology for Offshore Oil and Natural Gas Operations](#) study was sponsored by the Bureau of Safety and Environmental Enforcement of the U.S. Department of the Interior. The National Academies of Sciences, Engineering, and Medicine are private, nonprofit institutions that provide independent, objective analysis and advice to the nation to solve complex problems and inform public policy decisions related to science, technology, and medicine.

-BSEE-



To unsubscribe from future emails or to update your email preferences, [click here](#).





Holly A. Hopkins
Senior Policy Advisor

1220 L Street, NW
Washington, DC 20005-4070
USA
Phone: 202-682-8439
Fax: 202-682-8426

Email hopkinsh@api.org
www.api.org

August 30, 2018

Scott Angelle
Director
Bureau of Safety and Environmental Enforcement
U.S. Department of the Interior
1849 C Street, NW
Washington, DC 20240

Re: National Academies Report on High-Performance Bolting Technology

Dear Director Angelle:

The American Petroleum Institute (API) and its members are committed to safety as well as continually improving training, operating procedures, technology and industry standards. As such, we appreciate the interest of BSEE and the National Academies in standards development activities related to safety. However, we have some concerns regarding a recently published National Academies report entitled "High-Performance Bolting Technology for Offshore Oil and Natural Gas Operations." As part of this commitment API and Industry have formed a multi-segment workgroup comprised of Operators, Drilling Contractors, and Equipment Manufacturers (including bolt manufacturers) and steel mills to address issues related to subsea bolts and fasteners. These experts have reviewed the report and provide the following supplemental information for consideration. Each finding in the report is followed by an industry response. They are numbered for ease of reference.

1. Pages 54-55

Finding: "Oil and gas industry specifications and practice use torque as the value to be measured in tightening flange bolts. Torqueing, as currently specified in the oil and gas industry, is an inaccurate method of preloading flange bolts."

"As operations have moved deeper offshore and bolts experience more demanding service, the use of torque as a bolt/stud/nut tightening criteria to establish a connector tensile preload has outlived its usefulness. There is sufficient evidence that the practice of demanding increasingly accurate bolt torqueing equipment is non-optimal. Furthermore, it carries the risk of believing that the accuracy of torqueing reflects the accuracy of the desired design parameter-bolt preloading."

Industry Response:

Torque methods have been used for decades to reliably preload bolted connections. However, Industry is actively using or investigating newer and more accurate methods of determining preload, such as measuring bolts elongation after torqueing. Original Equipment Manufacturers (OEMs) have performed many empirical tests to accurately determine the friction factors associated with recommend torque values for a given lubricant. These friction factors are then reliably used to calculate the required torque to achieve the desired preload in bolted connections. Original Equipment Manufacturers and equipment owners have detailed procedures and calibrated equipment to ensure the correct torque (and therefore preload) is applied during makeup.

2. Page 55

Option 2.1: "BSEE could convene an industry study group to investigate flange bolt design and installation standards. Options which could be considered include:

- Put a hold on requirements for industry to use more accurate torqueing equipment.
- API Spec 17D could be revised to "require" rather than "recommend" that bolts be accurately preloaded.
- Eliminate the term "torque" as torque has been determined to be inherently inaccurate. Suggest the use of a more accurate bolt pretensioning method for critical flange bolt preloading on all new equipment fabrication and at five yearly inspections. (Appendix J lists some alternative bolt pre-tensioning methods.)
- Consider commissioning engineering design studies to determine realistic tension loading safety margins for flange bolts. Such a study could initially concentrate on the preload variability that results from torqueing, however assessments of operational loading uncertainty and in-service material degradation could also be considered.
- Consider commissioning a study to evaluate the impact of a single bolt failure on overall connector reliability. This study could cover a range of flange sizes (i.e., number of flange bolts).
- Consider new and revised specifications, standards and recommended practices to be incorporated into Code of Federal Regulations (CFR) 30 section 250 based on proactive assessment of risk areas."

Industry Response:

Industry is willing to work with BSEE to further investigate flange bolt design and installation standards. API flange bolt preload specifications of 50% of specified minimum yield strength (SMYS) are lower than other industry codes that allow higher percentages of SMYS. In addition, designs are made to set target pretensions at 10% or more below the maximum allowed stress for the material SMYS. Also, the pre-tension is set to statically load the fastener in excess of environmental forces (pressure and bending fluctuations) while not exceeding the maximum allowed 83% of SMYS.

3. Page 55

Finding: "Current specifications for offshore fastener steels prohibit the use of continuous cast products, primarily because the existence of banding has been observed in steels which also failed in service by hydrogen embrittlement. However, as a result of recent advances in steel making casting technologies, significant advances in product quality have been realized."

Industry Response:

The industry standard prohibiting use of continuous cast steels is limited to products produced in accordance with grade BSL-3 of API Spec 20E - *Alloy and Carbon Steel Bolting for Use in the Petroleum and Natural Gas Industries*. The prohibition is not based solely on banding concerns. Additionally, although hydrogen embrittlement failure is a major concern, it is not the only cause of failure addressed by the continuous cast steel restriction. Continuous cast steel was determined by the API 20E Task Group to be more susceptible to macrostructural and microstructural deficiencies in addition to hydrogen embrittlement. It is recognized that the greater reduction ratios common to ingot cast steel can result in superior properties, with impact properties being the prime example. The API 20E Task Group is currently considering permitting use of continuous cast steel with added process requirements and size limitations.

4. Page 56

Option 2.2: "BSEE could request an industry-led consortium with academic participants to initiate systematic studies to investigate and evaluate the environmentally assisted cracking/hydrogen embrittlement susceptibility of continuous cast and ingot cast steels. The results on continuous cast steels could also include "modern" product produced in newer facilities and characterized with non-destructive testing techniques to assess soundness. The consortium could also evaluate alternate steel alloys and processing histories leading to improved in-service performance. The prohibition of banding to maintain product quality for subsea bolting could also be reviewed."

Industry Response:

API Subcommittee on Materials (SC21) currently has a task group with a charge that includes the basic points of this option. Research is underway to determine the effect of material strength and material quality on the susceptibility to hydrogen embrittlement in seawater service. The initial testing now in progress is on ingot cast steel. Subsequent testing will be on continuous cast steel.

5. Page 56

Option 2.3: "Under the oversight of BSEE, the industry could collect data on the service conditions and performance of bolting in all critical riser/BOP applications for every deepwater drilling operation. This would include subjecting all fasteners, failed and un-failed, in these critical applications to a thorough post-operational inspection—requiring a full dimensional check and metallurgic post-mortem, with root-cause analysis being performed when the equipment did not perform according to design."

Industry Response:

Industry agrees that a root cause analysis (RCA) should be performed on any failed critical BOP/riser fasteners. Several RCAs have been completed with the involvement of BSEE over the past several years. Unfortunately, all of these case studies could not be shared with the NAS committee due to the confidentiality agreement in place with BSEE.

6. Page 57

Option 2.4: "The oil and gas industry could pursue technologies that offer more effective NDT inspection of bolts in-situ, on the deck, and in the shop. Employment of these technologies could be made mandatory by BSEE as they have been qualified in other industries."

Industry Response:

There are various methods of NDT currently being used by equipment users based on API and internal company periodic maintenance requirements. Some of the recognized methods being used are: Visual inspections, Ultrasonic Testing, including Phased Array Ultrasonic Testing (PAUT), Dye Penetrant Inspection, Magnetic Particle inspection, torque checks, and bolt elongation measurements. Industry is utilizing a number of new nondestructive testing (NDT) technologies to evaluate in-service critical BOP bolts. Phased array ultrasonic evaluation has been completed on a number of bolts, and the procedures are being updated with lessons learned to maximize the value of phased array inspection.

7. Page 57

Option 2.5: "BSEE could establish inspection requirements for un-failed bolts during the five-year shop inspection or could require that all critical bolts be replaced during this inspection. BSEE should also establish / require serial numbers on all critical bolts so that inspections of any specific bolt could be documented and catalogued. The results from inspections should be reported as determined by mutual agreement between BSEE and the organization performing the five-year shop inspection."

Industry Response:

The current industry standard (API 53 *Blowout Prevention Equipment Systems for Drilling Wells*) requires an inspection every 3-5 years, regardless of location (e.g., offshore or onshore). As this standard provides for inspections more frequently than every 5 years, industry can know the condition of the bolts and replace them if warranted. Therefore, arbitrary replacement of un-failed bolts every 5 years is overly burdensome. Also, bolts that have been in service and have undergone periodic inspections such as PAUT are generally considered proven for continued use.

Industry will further discuss the recommendation for serial numbers on critical bolts.

Currently bolts that have completely failed are reported through the RAPID-S53 database and internal company equipment failure reporting systems. Failures from the RAPID-S53 database are also reported directly to the Bureau of Transportation Statistics (BTS).

8. Page 58

Recommendation 2.7: “The oil and gas industry should establish a comprehensive methodology and or program to optimize the cathodic protection (CP) practice for critical assets containing fastener metallic materials. For current structures, CP monitoring and assessment practice should be instituted. As new structures are designed, the industry should establish CP design requirements optimized for materials in use, based on electrochemical fundamentals. This project should evaluate the use of “low voltage” aluminum anodes currently being used by the U.S. Navy and the French Navy to reduce the risk of hydrogen assisted cracking of their high-strength alloys.”

Industry Response:

Industry agrees with the recommendation of evaluating the use of “low voltage” aluminum anodes. Industry requests that specific details (chemical composition, supplier information) be passed on from the U.S. Navy to share lessons learned. The evaluation of “low voltage” aluminum anodes should consider, as a minimum, the complex geometries of the subsea structures, the wide water temperature and oxygen concentration range in which these structures operate, and the long design life for some of the structures.

Industry is also performing cathodic protection surveys on those in-service BOPs and riser-utilizing ROV probes. Industry will determine how to share the lessons learned from these studies.

As mentioned in number 4 above, API SC21 is conducting research that includes the effect of cathodic protection on bolting of different hardness and quality to determine susceptibility to hydrogen embrittlement in seawater service.

9. Page 59

Recommendation 2.8: “The industry should review the usage of materials (e.g., lubricants containing sulfides) in contact with fasteners that are known to poison the chemical reaction of atomic hydrogen converting to molecular hydrogen (hydrogen gas) and identify substitute materials so that the concentration of atomic hydrogen at the metal surface is reduced.

BSEE could consider immediately prohibiting the use of sulfide-containing lubricants until such a study indicated that they can be used without enabling hydrogen uptake.”

Industry Response:

Industry recognizes that there have been fastener failures potentially attributed to the presence of sulfides. Notably, in the 1993 to 1994 timeframe there were several failures of fasteners manufactured from Cu-Ni-Mn-Al-Nb alloy, which is a high strength alloy, with low Charpy values. At that time, these failures were allegedly attributed to environmentally assisted cracking potentially associated with the presence of sulfides. It should be noted that the nature of the Cu-Ni-Mn-Al-Nb alloy makes it susceptible to hydrogen embrittlement even without sulfide presence. Industry research¹ suggests that sulfide-containing lubricants are one risk factor in a complex combination of design, mechanical and environmental factors, which led to the Cu-Ni-Mn-Al-Nb bolt material failures. Therefore, sulfide-containing lubricants may erroneously be blamed for some bolting failures.

For many years industry has used molybdenum-disulfide (MoS₂) lubricants with a heavy paraffin base for lubricating fasteners. In an oil/gas production system, the absolute amount of friction-reducing MoS₂ is limited. Further, additional scavenging and dilution effects by the surrounding metals and fluids occurs. This means that H₂S formation from MoS₂ hydrolysis reaction below 250°F will most likely be lower than NACE-defined sour limit (0.05 psi partial pressure H₂S). Additionally, fasteners used on offshore drilling rigs are typically operating in

¹ Paper No 78 of the NACE International Annual Conference and Exposition CORROSION 96, EVALUATION OF HIGH-STRENGTH Cu-Ni-Mn-Al BOLTING USED IN OIL AND GAS SERVICE

temperatures less than 170°F. Therefore, such temperatures limit the formation of hydrogen sulfide, from MoS₂, that may lead to sulfide stress corrosion cracking or hydrogen embrittlement. Lastly, fasteners used on offshore drilling rigs are typically manufactured from carbon steels or corrosion resistant alloys, excluding the Cu-Ni-Mn-Al-Nb alloy. There are no recorded bolting failures of these materials that can be attributed to sulfide-containing lubricants. Therefore, we believe that sulfide-containing lubricants are not adding additional risk for use on carbon steel, low alloy steel, stainless steel, and corrosion resistant alloy fasteners, excluding fasteners made from Cu-Ni-Mn-Al-Nb alloys and potentially other materials highly susceptible to hydrogen embrittlement.

10. Page 59

Option 2.9: “The committee suggests that cluster failures be investigated by BSEE in large-scale fully instrumented flange test rig that simulates subsea conditions on fasteners in bolted joints including structural loads, environmental conditions, and cathodic polarization. These investigations are necessary to definitively establish the origins of these cluster failures and to prove the effectiveness of mitigation strategies.”

Industry Response:

Industry has investigated the “unzipping” characteristic of previous bolt failures. Typically, failure occurs on a bolt with a manufacturing defect. The bolts that are then in close proximity to the failed bolt experience a higher stress which can then cause any material defects to initiate failure at that bolt and expand from there.

11. Page 60

Finding: “There is not an accepted laboratory standard test method within the industry to assess the susceptibility HAC for bolting materials used in offshore applications.”

Recommendation 2.10: “The oil and gas industry should establish through adequate research an accepted laboratory standard test method to assess the susceptibility to hydrogen assisted cracking of bolting materials and their coatings used in offshore applications.”

Industry Response:

There are laboratory test methods available to determine the susceptibility of hydrogen assisted cracking in offshore applications. Research is being conducted in API SC21 on coatings for short term protection and maximum material strength. Industry standards ASTM F2660 - *Standard Test Method for Qualifying Coatings for Use on A490 Structural Bolts Relative to Environmental Hydrogen Embrittlement* and F1624 - *Standard Test Method for Measurement of Hydrogen Embrittlement Threshold in Steel by the Incremental Step Loading Technique* are being used for this purpose.

12. Page 60

Finding: “Bolt designs, as currently specified in the oil and gas industry, utilize standard well-accepted thread designs. These thread designs can result in extremely high stress concentrations at the thread roots—especially on the first thread root. Other industries have utilized innovative designs to alleviate this problem.”

Industry Response:

Industry disagrees that stress concentrations at thread roots is extreme. API 20E - *Alloy and Carbon Steel Bolting for Use in the Petroleum and Natural Gas Industries* and API 20F - *Corrosion-resistant Bolting for Use in the Petroleum and Natural Gas Industries* both require external Unified National Threads with “R” (UNR controlled radius root) series on the male threads where the highest stress concentration exists.

13. Page 60

Finding: “Threads are generated by either machining or rolling. To date, assessment of the selected thread design and method of manufacture used for offshore applications to ensure that the design exhibits the maximum resistance to environmentally assisted fracture has not been undertaken.”

Industry Response:

Research is planned in API SC21 to quantify the hardness increase in precipitation-hardened nickel alloys of cold-rolled threads versus a machining/thread cutting operation and to recommend a method for testing. The project is scheduled to begin in calendar year 2019.

14. Page 60

Recommendation 2.11: “The oil and gas industry should:

- Assess various thread designs and manufacturing methods for maximum resistance to environmentally assisted fracture.
- Conduct systematic studies to assess effect of bolt designs (including the tread geometry) on hydrogen assisted cracking susceptibility.
- Pursue research into thread designs which could reduce the stress concentration in bolt threads.”

Industry Response:

Industry requests that specific details of “better thread designs” cited from US Navy (report page 120) be shared so industry can evaluate their performance in our applications.

See additional information in number thirteen above.

15. Page 60

Recommendation 2.12: “The oil and gas industry should review the standards relating to bolt tensioning, both in terms of loading as a percent of yield strength and in terms of preloading technique, to minimize the probability for under- or over-tensioning bolts operating in subsea environments.”

Industry Response:

The role of excessive preload with respect to industry bolt failures is inconclusive at this point. Therefore, studies that focus on other areas of identified failure such as bolt coatings would be more beneficial. Analysis methods for rig and equipment operations are more accurate now than in previous years. This ensures that equipment limits are not exceeded when operating the rig and equipment. See additional information in number one above.

16. Page 88

Finding: “There is insufficient attention to individual worker and skill development through selection, training, and work process design.”

Industry Response:

The Code of Federal Regulations currently requires a Safety and Environmental Management System (SEMS) for performing work in the Gulf of Mexico. SEMS is a competency management tool that helps identify required training, auditing and assessing of skilled workers. Companies performing operations in the Gulf of Mexico have training requirements and on the job assessments.

Industry has multiple work fronts investigating human factors and how individuals contribute to the success/failure of equipment. Industry agrees competency is a critical piece in the equation for project success. Quality management system specifications such as API Q1 - *Specification for Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry* and API Q2 - *Specification for Quality Management System Requirements for Service Supply Organizations for the*

Petroleum and Natural Gas Industries have placed an increasing emphasis on the need for training. In response, industry training requirements and levels have increased significantly and are continuing to improve.

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Finding: “Multiple organizations often have conflicting work processes and share minimal information (rigs, operators, OEMs)”

Industry Response:

While multiple organizations that occupy different functions (suppliers, owners, operators, service providers, etc.) within a single sector will understandably focus on different aspects of the same concern, this should not be interpreted to be that they are conflicting.

Below are a few examples of shared processes and communication channels between typical organization types within the drilling industry:

Contractor and Operator:

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All:

- RAPID-S53 [owner, operators and manufacturers]
- JIPs [owner, operators and manufacturers]
- API involvement in standards development [owner, operators, third parties, government representatives, and manufacturers]

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Recommendation 4.1: "The oil and gas industry should promote an enhanced safety culture across organizations and disciplines that is reflected in work rules and that involves encouragement at all levels of the organization to improve the reliability of subsea bolts. This would include the following:

- The creation of a dedicated organizational human systems stakeholder;
- Attention to the individual worker and skill development through training, selection and work process sign;
- Company and industry-wide sharing of best practices for collecting and disseminating information about fastener performance, failures, and near misses; and
- Assessing gaps that could be mitigated by technology developments."

Industry Response:

There are many examples of how, on many levels, the industry's organizations are involved in the improvement to both materials and work standards that improve the reliability of subsea bolts:

- SEMS requirements from subpart S 250.1916 (b) requires employee training for those involved in maintaining equipment and systems as part of the mechanical integrity program.
- The International Association of Drilling Contractors (IADC) has a Key Skills and Ability competencies list which mirrors the content of most contractor's competency programs and includes the subjects of torquing and friction coefficient's effect on preload.
- Rig personnel receive OEM product bulletins including alerts which carry actions [equipment inspection, procedure reviews, etc.] for all equipment, not just fasteners. There have been nearly a dozen product advisories issued by the OEMs of BOP equipment in the last 3 years that address materials, procedures and measurement which demonstrates active engagement of the subject.
- OEM and equipment owners provide specific torquing instructions to their crews which complements the OEM issued procedures. [Examples GE x-1018450, Cameron EB962, NOV AX050091, etc.] All of these procedures have common themes of specific lubricants, application of lubrication, use of calibrated tools, torque patterns and staged torque rounds and are easily evidenced when visiting work sites.
- Rig personnel are kept up to date with any revisions to fastener procedures received from the OEMs that result from testing or design changes.
- Both OEMs and equipment owners record the torquing values and process used, including torquing pattern and sequence as a part of assembly and maintenance records.
- OEMs, equipment owners, and operators have collaborated within the various API specifications, from supply chain management standards to manufacturing and integration standards, to improve BOP equipment critical fastener quality control and design specification standards. Examples include:
 - API 20E and API 20F for the manufacture of fasteners,
 - API 16A - *Specification for Drill-through Equipment*, API 16F - *Specification for Marine Drilling Riser Equipment*, API 16C - *Choke and Kill Equipment* (in ballot), API 6A - *Specification for Wellhead and Christmas Tree Equipment* (in comment resolution), and API 6DSS - *Specification for Subsea Pipeline Valves* for design and manufacture of well control equipment, and
 - API S53 - *Blowout Prevention Equipment Systems for Drilling Wells* (in comment resolution) for system management.

API appreciates the opportunity to work with BSEE to continue to advance our shared objective of safe offshore operations. If you have any questions, please contact me by phone at (202)682-8439, or by e-mail at hopkinsh@api.org.

Sincerely,



Holly A. Hopkins

cc: Doug Morris, Chief, Office of Offshore Regulatory Programs, BSEE
Lars Herbst, GOM Regional Director, BSEE

From: [Center for Offshore Safety](#)
To: [Scott Angelle](#)
Subject: COS Annual Forum - Before you Arrive
Date: Thursday, September 6, 2018 9:47:14 AM

COS-FORUM_GENERAL_BANNER_590x80



Know Before You Go

We look forward to seeing you at the 5th Annual COS Forum located at the Westin Houston Memorial City, 945 Gessner Rd., Houston, TX. A final copy of the Agenda can be viewed and printed [HERE](#).

Check-in & Registration

Registration, located on the 4th floor, will open on Tuesday and Wednesday at 7:00 am to collect your badge and select which breakout sessions to attend. Onsite Registration will be available for people that did not pre-register for the Forum.

Transportation and Parking

Please be advised that due to flooding in some of the surrounding areas, traffic delays are very likely.

You'll want to allow extra time to arrive for the event.

Parking is not validated. Valet parking is \$16. Self-parking is \$14.

Attire

Attire is business casual. Meeting room temperatures may be cool; pack a sweater or blazer.

Exhibitors and Sponsors

8 Exhibitors will be onsite to showcase their products and services.

Thank you to our sponsors BHP, BP and Chevron for supporting the Forum.

We look forward to seeing you all at the Forum.

COS - Edited



From: [Holly Hopkins](#)
To: [Scott Angelle](#)
Cc: [Doug Morris \(douglas.morris@bsee.gov\)](#); [Lars Herbst \(lars.herbst@bsee.gov\)](#); [Candi Hudson](#)
Subject: RE: BSEE Sponsored Study
Date: Thursday, September 6, 2018 12:37:22 PM
Attachments: [API final draft letter to BSEE 08302018.pdf](#)

I received a message that this may not have gone through. Trying again. Thanks!

From: Holly Hopkins
Sent: Thursday, August 30, 2018 10:03 PM
To: 'scott.angelle@bsee.gov' <scott.angelle@bsee.gov>
Cc: Doug Morris (douglas.morris@bsee.gov) <douglas.morris@bsee.gov>; Lars Herbst (lars.herbst@bsee.gov) <lars.herbst@bsee.gov>; Candi Hudson <Candi.Hudson@bsee.gov>
Subject: RE: BSEE Sponsored Study

Scott,

As you know, API and our members are committed to safety as well as continually improving training, operating procedures, technology and industry standards. As such, we appreciate the interest of BSEE and the National Academies in standards development activities related to safety. However, we have some concerns regarding this recently published National Academies report entitled "High-Performance Bolting Technology for Offshore Oil and Natural Gas Operations." As part of this commitment API and Industry formed a multi-segment workgroup to address issues related to subsea bolts and fasteners. These experts have reviewed the report and provide the attached information for consideration. API appreciates the opportunity to work with BSEE to continue to advance our shared objective of safe offshore operations. If you have any questions, please contact me.

Thanks,
Holly

From: BSEE Public Affairs <bseepublicaffairs@opa.bsee.gov>
Sent: Thursday, June 21, 2018 3:00 PM
To: Holly Hopkins <hopkinsh@api.org>
Subject: BSEE Sponsored Study

If you are having trouble reading this email, [read the online version](#).



BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT
Office of Public Affairs
For Immediate Release

Contact:
Greg Julian, Press Secretary
Gregory.Julian@bsee.gov

BSEE-Sponsored Study Identifies Strategies for Improving Safety and Mitigating Risks in Offshore Oil and Gas Operations

Report identifies optimal material properties and coating requirements for undersea bolts on offshore oil and gas drilling rigs

WASHINGTON - The Bureau of Safety and Environmental Enforcement's Interagency Bolt Action Team (IBAT) met Thursday to discuss the recommendations in a new report from the National Academies of Sciences, Engineering, and Medicine that identifies strategies for improving the reliability of bolts used in offshore oil and gas drilling rigs.

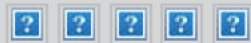
The objective of the BSEE-sponsored study was to determine the optimal material properties and coating requirements associated with fasteners used in critical safety components and equipment in offshore oil and natural gas subsea operations, thereby mitigating the risks of critical offshore connector equipment failures.

Although no major oil spills have resulted from the failure of a bolt fastener, there have been minor oil releases and near misses caused by unexpected bolt failures. In an ongoing effort to address recurring safety issues, BSEE hosted a public forum in August 2016 on critical offshore connector equipment failures, and also chartered the IBAT in September 2016 to share expertise, data, and experience and develop best practices on fastener safety.

More information regarding BSEE's risk mitigation efforts for bolts can be found [here](#).

The [High-Performance Bolting Technology for Offshore Oil and Natural Gas Operations](#) study was sponsored by the Bureau of Safety and Environmental Enforcement of the U.S. Department of the Interior. The National Academies of Sciences, Engineering, and Medicine are private, nonprofit institutions that provide independent, objective analysis and advice to the nation to solve complex problems and inform public policy decisions related to science, technology, and medicine.

-BSEE-



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Holly A. Hopkins
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www.api.org

August 30, 2018

Scott Angelle
Director
Bureau of Safety and Environmental Enforcement
U.S. Department of the Interior
1849 C Street, NW
Washington, DC 20240

Re: National Academies Report on High-Performance Bolting Technology

Dear Director Angelle:

The American Petroleum Institute (API) and its members are committed to safety as well as continually improving training, operating procedures, technology and industry standards. As such, we appreciate the interest of BSEE and the National Academies in standards development activities related to safety. However, we have some concerns regarding a recently published National Academies report entitled "High-Performance Bolting Technology for Offshore Oil and Natural Gas Operations." As part of this commitment API and Industry have formed a multi-segment workgroup comprised of Operators, Drilling Contractors, and Equipment Manufacturers (including bolt manufacturers) and steel mills to address issues related to subsea bolts and fasteners. These experts have reviewed the report and provide the following supplemental information for consideration. Each finding in the report is followed by an industry response. They are numbered for ease of reference.

1. Pages 54-55

Finding: "Oil and gas industry specifications and practice use torque as the value to be measured in tightening flange bolts. Torqueing, as currently specified in the oil and gas industry, is an inaccurate method of preloading flange bolts."

"As operations have moved deeper offshore and bolts experience more demanding service, the use of torque as a bolt/stud/nut tightening criteria to establish a connector tensile preload has outlived its usefulness. There is sufficient evidence that the practice of demanding increasingly accurate bolt torqueing equipment is non-optimal. Furthermore, it carries the risk of believing that the accuracy of torqueing reflects the accuracy of the desired design parameter-bolt preloading."

Industry Response:

Torque methods have been used for decades to reliably preload bolted connections. However, Industry is actively using or investigating newer and more accurate methods of determining preload, such as measuring bolts elongation after torqueing. Original Equipment Manufacturers (OEMs) have performed many empirical tests to accurately determine the friction factors associated with recommend torque values for a given lubricant. These friction factors are then reliably used to calculate the required torque to achieve the desired preload in bolted connections. Original Equipment Manufacturers and equipment owners have detailed procedures and calibrated equipment to ensure the correct torque (and therefore preload) is applied during makeup.

2. Page 55

Option 2.1: "BSEE could convene an industry study group to investigate flange bolt design and installation standards. Options which could be considered include:

- Put a hold on requirements for industry to use more accurate torqueing equipment.
- API Spec 17D could be revised to "require" rather than "recommend" that bolts be accurately preloaded.
- Eliminate the term "torque" as torque has been determined to be inherently inaccurate. Suggest the use of a more accurate bolt pretensioning method for critical flange bolt preloading on all new equipment fabrication and at five yearly inspections. (Appendix J lists some alternative bolt pre-tensioning methods.)
- Consider commissioning engineering design studies to determine realistic tension loading safety margins for flange bolts. Such a study could initially concentrate on the preload variability that results from torqueing, however assessments of operational loading uncertainty and in-service material degradation could also be considered.
- Consider commissioning a study to evaluate the impact of a single bolt failure on overall connector reliability. This study could cover a range of flange sizes (i.e., number of flange bolts).
- Consider new and revised specifications, standards and recommended practices to be incorporated into Code of Federal Regulations (CFR) 30 section 250 based on proactive assessment of risk areas."

Industry Response:

Industry is willing to work with BSEE to further investigate flange bolt design and installation standards. API flange bolt preload specifications of 50% of specified minimum yield strength (SMYS) are lower than other industry codes that allow higher percentages of SMYS. In addition, designs are made to set target pretensions at 10% or more below the maximum allowed stress for the material SMYS. Also, the pre-tension is set to statically load the fastener in excess of environmental forces (pressure and bending fluctuations) while not exceeding the maximum allowed 83% of SMYS.

3. Page 55

Finding: "Current specifications for offshore fastener steels prohibit the use of continuous cast products, primarily because the existence of banding has been observed in steels which also failed in service by hydrogen embrittlement. However, as a result of recent advances in steel making casting technologies, significant advances in product quality have been realized."

Industry Response:

The industry standard prohibiting use of continuous cast steels is limited to products produced in accordance with grade BSL-3 of API Spec 20E - *Alloy and Carbon Steel Bolting for Use in the Petroleum and Natural Gas Industries*. The prohibition is not based solely on banding concerns. Additionally, although hydrogen embrittlement failure is a major concern, it is not the only cause of failure addressed by the continuous cast steel restriction. Continuous cast steel was determined by the API 20E Task Group to be more susceptible to macrostructural and microstructural deficiencies in addition to hydrogen embrittlement. It is recognized that the greater reduction ratios common to ingot cast steel can result in superior properties, with impact properties being the prime example. The API 20E Task Group is currently considering permitting use of continuous cast steel with added process requirements and size limitations.

4. Page 56

Option 2.2: "BSEE could request an industry-led consortium with academic participants to initiate systematic studies to investigate and evaluate the environmentally assisted cracking/hydrogen embrittlement susceptibility of continuous cast and ingot cast steels. The results on continuous cast steels could also include "modern" product produced in newer facilities and characterized with non-destructive testing techniques to assess soundness. The consortium could also evaluate alternate steel alloys and processing histories leading to improved in-service performance. The prohibition of banding to maintain product quality for subsea bolting could also be reviewed."

Industry Response:

API Subcommittee on Materials (SC21) currently has a task group with a charge that includes the basic points of this option. Research is underway to determine the effect of material strength and material quality on the susceptibility to hydrogen embrittlement in seawater service. The initial testing now in progress is on ingot cast steel. Subsequent testing will be on continuous cast steel.

5. Page 56

Option 2.3: "Under the oversight of BSEE, the industry could collect data on the service conditions and performance of bolting in all critical riser/BOP applications for every deepwater drilling operation. This would include subjecting all fasteners, failed and un-failed, in these critical applications to a thorough post-operational inspection—requiring a full dimensional check and metallurgic post-mortem, with root-cause analysis being performed when the equipment did not perform according to design."

Industry Response:

Industry agrees that a root cause analysis (RCA) should be performed on any failed critical BOP/riser fasteners. Several RCAs have been completed with the involvement of BSEE over the past several years. Unfortunately, all of these case studies could not be shared with the NAS committee due to the confidentiality agreement in place with BSEE.

6. Page 57

Option 2.4: "The oil and gas industry could pursue technologies that offer more effective NDT inspection of bolts in-situ, on the deck, and in the shop. Employment of these technologies could be made mandatory by BSEE as they have been qualified in other industries."

Industry Response:

There are various methods of NDT currently being used by equipment users based on API and internal company periodic maintenance requirements. Some of the recognized methods being used are: Visual inspections, Ultrasonic Testing, including Phased Array Ultrasonic Testing (PAUT), Dye Penetrant Inspection, Magnetic Particle inspection, torque checks, and bolt elongation measurements. Industry is utilizing a number of new nondestructive testing (NDT) technologies to evaluate in-service critical BOP bolts. Phased array ultrasonic evaluation has been completed on a number of bolts, and the procedures are being updated with lessons learned to maximize the value of phased array inspection.

7. Page 57

Option 2.5: "BSEE could establish inspection requirements for un-failed bolts during the five-year shop inspection or could require that all critical bolts be replaced during this inspection. BSEE should also establish / require serial numbers on all critical bolts so that inspections of any specific bolt could be documented and catalogued. The results from inspections should be reported as determined by mutual agreement between BSEE and the organization performing the five-year shop inspection."

Industry Response:

The current industry standard (API 53 *Blowout Prevention Equipment Systems for Drilling Wells*) requires an inspection every 3-5 years, regardless of location (e.g., offshore or onshore). As this standard provides for inspections more frequently than every 5 years, industry can know the condition of the bolts and replace them if warranted. Therefore, arbitrary replacement of un-failed bolts every 5 years is overly burdensome. Also, bolts that have been in service and have undergone periodic inspections such as PAUT are generally considered proven for continued use.

Industry will further discuss the recommendation for serial numbers on critical bolts.

Currently bolts that have completely failed are reported through the RAPID-S53 database and internal company equipment failure reporting systems. Failures from the RAPID-S53 database are also reported directly to the Bureau of Transportation Statistics (BTS).

8. Page 58

Recommendation 2.7: “The oil and gas industry should establish a comprehensive methodology and or program to optimize the cathodic protection (CP) practice for critical assets containing fastener metallic materials. For current structures, CP monitoring and assessment practice should be instituted. As new structures are designed, the industry should establish CP design requirements optimized for materials in use, based on electrochemical fundamentals. This project should evaluate the use of “low voltage” aluminum anodes currently being used by the U.S. Navy and the French Navy to reduce the risk of hydrogen assisted cracking of their high-strength alloys.”

Industry Response:

Industry agrees with the recommendation of evaluating the use of “low voltage” aluminum anodes. Industry requests that specific details (chemical composition, supplier information) be passed on from the U.S. Navy to share lessons learned. The evaluation of “low voltage” aluminum anodes should consider, as a minimum, the complex geometries of the subsea structures, the wide water temperature and oxygen concentration range in which these structures operate, and the long design life for some of the structures.

Industry is also performing cathodic protection surveys on those in-service BOPs and riser-utilizing ROV probes. Industry will determine how to share the lessons learned from these studies.

As mentioned in number 4 above, API SC21 is conducting research that includes the effect of cathodic protection on bolting of different hardness and quality to determine susceptibility to hydrogen embrittlement in seawater service.

9. Page 59

Recommendation 2.8: “The industry should review the usage of materials (e.g., lubricants containing sulfides) in contact with fasteners that are known to poison the chemical reaction of atomic hydrogen converting to molecular hydrogen (hydrogen gas) and identify substitute materials so that the concentration of atomic hydrogen at the metal surface is reduced.

BSEE could consider immediately prohibiting the use of sulfide-containing lubricants until such a study indicated that they can be used without enabling hydrogen uptake.”

Industry Response:

Industry recognizes that there have been fastener failures potentially attributed to the presence of sulfides. Notably, in the 1993 to 1994 timeframe there were several failures of fasteners manufactured from Cu-Ni-Mn-Al-Nb alloy, which is a high strength alloy, with low Charpy values. At that time, these failures were allegedly attributed to environmentally assisted cracking potentially associated with the presence of sulfides. It should be noted that the nature of the Cu-Ni-Mn-Al-Nb alloy makes it susceptible to hydrogen embrittlement even without sulfide presence. Industry research¹ suggests that sulfide-containing lubricants are one risk factor in a complex combination of design, mechanical and environmental factors, which led to the Cu-Ni-Mn-Al-Nb bolt material failures. Therefore, sulfide-containing lubricants may erroneously be blamed for some bolting failures.

For many years industry has used molybdenum-disulfide (MoS₂) lubricants with a heavy paraffin base for lubricating fasteners. In an oil/gas production system, the absolute amount of friction-reducing MoS₂ is limited. Further, additional scavenging and dilution effects by the surrounding metals and fluids occurs. This means that H₂S formation from MoS₂ hydrolysis reaction below 250°F will most likely be lower than NACE-defined sour limit (0.05 psi partial pressure H₂S). Additionally, fasteners used on offshore drilling rigs are typically operating in

¹ Paper No 78 of the NACE International Annual Conference and Exposition CORROSION 96, EVALUATION OF HIGH-STRENGTH Cu-Ni-Mn-Al BOLTING USED IN OIL AND GAS SERVICE

temperatures less than 170°F. Therefore, such temperatures limit the formation of hydrogen sulfide, from MoS₂, that may lead to sulfide stress corrosion cracking or hydrogen embrittlement. Lastly, fasteners used on offshore drilling rigs are typically manufactured from carbon steels or corrosion resistant alloys, excluding the Cu-Ni-Mn-Al-Nb alloy. There are no recorded bolting failures of these materials that can be attributed to sulfide-containing lubricants. Therefore, we believe that sulfide-containing lubricants are not adding additional risk for use on carbon steel, low alloy steel, stainless steel, and corrosion resistant alloy fasteners, excluding fasteners made from Cu-Ni-Mn-Al-Nb alloys and potentially other materials highly susceptible to hydrogen embrittlement.

10. Page 59

Option 2.9: “The committee suggests that cluster failures be investigated by BSEE in large-scale fully instrumented flange test rig that simulates subsea conditions on fasteners in bolted joints including structural loads, environmental conditions, and cathodic polarization. These investigations are necessary to definitively establish the origins of these cluster failures and to prove the effectiveness of mitigation strategies.”

Industry Response:

Industry has investigated the “unzipping” characteristic of previous bolt failures. Typically, failure occurs on a bolt with a manufacturing defect. The bolts that are then in close proximity to the failed bolt experience a higher stress which can then cause any material defects to initiate failure at that bolt and expand from there.

11. Page 60

Finding: “There is not an accepted laboratory standard test method within the industry to assess the susceptibility HAC for bolting materials used in offshore applications.”

Recommendation 2.10: “The oil and gas industry should establish through adequate research an accepted laboratory standard test method to assess the susceptibility to hydrogen assisted cracking of bolting materials and their coatings used in offshore applications.”

Industry Response:

There are laboratory test methods available to determine the susceptibility of hydrogen assisted cracking in offshore applications. Research is being conducted in API SC21 on coatings for short term protection and maximum material strength. Industry standards ASTM F2660 - *Standard Test Method for Qualifying Coatings for Use on A490 Structural Bolts Relative to Environmental Hydrogen Embrittlement* and F1624 - *Standard Test Method for Measurement of Hydrogen Embrittlement Threshold in Steel by the Incremental Step Loading Technique* are being used for this purpose.

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18. Page 89

Recommendation 4.1: "The oil and gas industry should promote an enhanced safety culture across organizations and disciplines that is reflected in work rules and that involves encouragement at all levels of the organization to improve the reliability of subsea bolts. This would include the following:

- The creation of a dedicated organizational human systems stakeholder;
- Attention to the individual worker and skill development through training, selection and work process sign;
- Company and industry-wide sharing of best practices for collecting and disseminating information about fastener performance, failures, and near misses; and
- Assessing gaps that could be mitigated by technology developments."

Industry Response:

There are many examples of how, on many levels, the industry's organizations are involved in the improvement to both materials and work standards that improve the reliability of subsea bolts:

- SEMS requirements from subpart S 250.1916 (b) requires employee training for those involved in maintaining equipment and systems as part of the mechanical integrity program.
- The International Association of Drilling Contractors (IADC) has a Key Skills and Ability competencies list which mirrors the content of most contractor's competency programs and includes the subjects of torquing and friction coefficient's effect on preload.
- Rig personnel receive OEM product bulletins including alerts which carry actions [equipment inspection, procedure reviews, etc.] for all equipment, not just fasteners. There have been nearly a dozen product advisories issued by the OEMs of BOP equipment in the last 3 years that address materials, procedures and measurement which demonstrates active engagement of the subject.
- OEM and equipment owners provide specific torquing instructions to their crews which complements the OEM issued procedures. [Examples GE x-1018450, Cameron EB962, NOV AX050091, etc.] All of these procedures have common themes of specific lubricants, application of lubrication, use of calibrated tools, torque patterns and staged torque rounds and are easily evidenced when visiting work sites.
- Rig personnel are kept up to date with any revisions to fastener procedures received from the OEMs that result from testing or design changes.
- Both OEMs and equipment owners record the torquing values and process used, including torquing pattern and sequence as a part of assembly and maintenance records.
- OEMs, equipment owners, and operators have collaborated within the various API specifications, from supply chain management standards to manufacturing and integration standards, to improve BOP equipment critical fastener quality control and design specification standards. Examples include:
 - API 20E and API 20F for the manufacture of fasteners,
 - API 16A - *Specification for Drill-through Equipment*, API 16F - *Specification for Marine Drilling Riser Equipment*, API 16C - *Choke and Kill Equipment* (in ballot), API 6A - *Specification for Wellhead and Christmas Tree Equipment* (in comment resolution), and API 6DSS - *Specification for Subsea Pipeline Valves* for design and manufacture of well control equipment, and
 - API S53 - *Blowout Prevention Equipment Systems for Drilling Wells* (in comment resolution) for system management.

API appreciates the opportunity to work with BSEE to continue to advance our shared objective of safe offshore operations. If you have any questions, please contact me by phone at (202)682-8439, or by e-mail at hopkinsh@api.org.

Sincerely,



Holly A. Hopkins

cc: Doug Morris, Chief, Office of Offshore Regulatory Programs, BSEE
Lars Herbst, GOM Regional Director, BSEE

From: [Center for Offshore Safety](#)
To: [Scott Angelle](#)
Subject: CORRECTION: COS Annual Forum - Before you Arrive
Date: Thursday, September 6, 2018 5:15:10 PM

COS-FORUM_GENERAL_BANNER_590x80



The previous email was sent by error. Here is what you need to know for this year's Forum.

The 6th Annual COS Forum located at the Westin Houston Memorial City,
945 Gessner Rd., Houston, TX.

A final copy of the agenda can be viewed and printed [HERE](#).

Check-in & Registration

Registration, located on the 4th floor, will open on Tuesday and Wednesday at 7:00 am to collect your badge and select which breakout sessions to attend. Onsite Registration will be available for people that did not pre-register for the Forum.

Parking

Parking is not validated. Valet parking is \$16. Self-parking is \$14.

Attire

Attire is business casual. Meeting room temperatures may be cool; pack a sweater or blazer.

Exhibitors and Sponsors

8 Exhibitors will be onsite to showcase their products and services.
Thank you to our sponsors BHP, BP and Chevron for supporting the Forum.

We look forward to seeing you all at the Forum.

COS - Edited



From: [Scott Angelle](#)
To: [Doug Morris](#)
Cc: [Holly Hopkins](#)
Date: Thursday, September 20, 2018 6:48:18 PM

Please advise when you provide the list to holly of the systems/equipment whose failure would result in significant effect on health, safety or the environment Thanks
Sent from my iPhone

From: [Holly Hopkins](#)
To: [Scott Angelle](#); [Doug Morris](#)
Subject: RE:
Date: Friday, September 21, 2018 9:32:15 AM

Thanks for the time yesterday. We look forward to continuing our work together.

-----Original Message-----

From: Scott Angelle <scott.angelle@bsee.gov>
Sent: Thursday, September 20, 2018 6:48 PM
To: Doug Morris <douglas.morris@bsee.gov>
Cc: Holly Hopkins <hopkinsh@api.org>
Subject:

Please advise when you provide the list to holly of the systems/equipment whose failure would result in significant effect on health, safety or the environment Thanks
Sent from my iPhone

From: [Scott Angelle](#)
To: [Holly Hopkins](#)
Cc: [Doug Morris](#)
Subject: Re: [EXTERNAL] RE:
Date: Friday, September 21, 2018 9:40:48 AM

Thanks

Sent from my iPhone

> On Sep 21, 2018, at 8:32 AM, Holly Hopkins <hopkinsh@api.org> wrote:

>

> Thanks for the time yesterday. We look forward to continuing our work together.

>

> -----Original Message-----

> From: Scott Angelle <scott.angelle@bsee.gov>

> Sent: Thursday, September 20, 2018 6:48 PM

> To: Doug Morris <douglas.morris@bsee.gov>

> Cc: Holly Hopkins <hopkinsh@api.org>

> Subject:

>

> Please advise when you provide the list to holly of the systems/equipment whose failure would result in significant effect on

> health, safety or the environment Thanks

> Sent from my iPhone

>

From: [Erik Milito](#)
To: scott.angelle@bsee.gov
Subject: Invitation to Speak at API Upstream Committee Meeting
Date: Monday, September 24, 2018 12:27:27 PM

Director Angelle,

I hope you are well. The API Upstream Committee is having its next meeting on Monday November 12, 2018, and we graciously extend this invitation to you to speak to the committee at this meeting. The Upstream Committee is comprised of industry executives with oversight over exploration and production activities in the United States and that represent companies regulated by the Department of the Interior. Our meeting is in Naples, Florida on November 12th from 1:00 pm – 5:00 pm. We could accommodate you based upon your availability within that time block. Based upon past meetings with Interior officials, we could set aside 45 minutes, which includes time for your remarks and for Q&A.

Please see below my signature block for a list of the committee members.

Thank you for considering this request.

Best regards,

Erik

Erik Milito
Group Director, Upstream & Industry Operations
American Petroleum Institute
1220 L Street, NW
Washington, DC 20005
Ph: (202) 682-8273
Fx: (202) 682-8426
militoe@api.org



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API Upstream Committee members

Alex Archila	BHP
Bernie Wolford	Noble Corporation
Bryan Collins	Parker Drilling
Chris Golden	Equinor
Charles (Chuck) Stanley	QEP Resources, Inc.
Chris Johnston	ENSCO

<u>Clay Gaspar</u>	WPX Energy Services Co LLC
<u>Danny Brown</u>	Anadarko Petroleum Corporation
<u>Dominic Macklin</u>	ConocoPhillips
<u>Frank Patterson</u>	Chesapeake Energy Corporation
<u>Gary Willingham</u>	Noble Energy Inc.
<u>Gene Coleman</u>	Murphy Exploration & Production Company
<u>Grady Ables</u>	Apache Corporation
<u>Rick Tallant</u>	Shell Exploration & Production
<u>Greg Hill</u>	Hess Corporation
<u>Jeff Shellebarger</u>	Chevron North America Exploration & Production Company
<u>John Jasek</u>	Newfield Exploration Company
<u>Jose Ignacio Sanz</u>	Total E&P USA, Inc.
<u>Jud Walker</u>	EnerVest Ltd.
<u>Keelan Adamson</u>	Transocean
<u>Lees Rodionov</u>	Schlumberger
<u>Luke Dunn</u>	CrownQuest Operating, LLC
<u>Mariano Ferrari</u>	Repsol
<u>Mark Berg</u>	Pioneer Natural Resources Company
<u>Mark Richard</u>	HALLIBURTON
<u>Michael Ming</u>	Baker Hughes, a GE Company
<u>Mike McAllister</u>	Encana
<u>Paul Geiger</u>	Southwestern Energy Company
<u>Randy Cleveland</u>	ExxonMobil Production Company
<u>Richard Jackson</u>	Occidental Petroleum Corporation
<u>Starlee Sykes</u>	BP America Inc.
<u>T.M. Little</u>	Marathon Oil Corporation
<u>Tony Vaughn</u>	Devon Energy Corporation

From: [Scott Angelle](#)
To: [Erik Milito](#)
Subject: Re: [EXTERNAL] Invitation to Speak at API Upstream Committee Meeting
Date: Monday, September 24, 2018 5:18:54 PM

Eric, thanks for your invite. I will advise within the next week or so

Sent from my iPhone

On Sep 24, 2018, at 12:26 PM, Erik Milito <militoe@api.org> wrote:

Director Angelle,

I hope you are well. The API Upstream Committee is having its next meeting on Monday November 12, 2018, and we graciously extend this invitation to you to speak to the committee at this meeting. The Upstream Committee is comprised of industry executives with oversight over exploration and production activities in the United States and that represent companies regulated by the Department of the Interior. Our meeting is in Naples, Florida on November 12th from 1:00 pm – 5:00 pm. We could accommodate you based upon your availability within that time block. Based upon past meetings with Interior officials, we could set aside 45 minutes, which includes time for your remarks and for Q&A.

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Thank you for considering this request.

Best regards,

Erik

Erik Milito
Group Director, Upstream & Industry Operations
American Petroleum Institute
1220 L Street, NW
Washington, DC 20005
Ph: (202) 682-8273
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militoe@api.org



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<u>Starlee Sykes</u>	BP America Inc.
<u>T.M. Little</u>	Marathon Oil Corporation
<u>Tony Vaughn</u>	Devon Energy Corporation

From: [Scott Angelle](#)
To: [Erik Milito](#)
Subject: Re: [EXTERNAL] Invitation to Speak at API Upstream Committee Meeting
Date: Monday, September 24, 2018 6:00:18 PM

Good man

Sent from my iPhone

On Sep 24, 2018, at 5:35 PM, Erik Milito <militoe@api.org> wrote:

Thank you. FYI - Jeff Shellebarger is the incoming chairman of the committee.

On Sep 24, 2018, at 5:19 PM, Scott Angelle <scott.angelle@bsee.gov> wrote:

Eric, thanks for your invite. I will advise within the next week or so

Sent from my iPhone

On Sep 24, 2018, at 12:26 PM, Erik Milito <militoe@api.org> wrote:

Director Angelle,

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Thank you for considering this request.

Best regards,

Erik

Erik Milito
Group Director, Upstream & Industry Operations
American Petroleum Institute
1220 L Street, NW
Washington, DC 20005
Ph: (202) 682-8273
Fx: (202) 682-8426
militoe@api.org
<image001.jpg>

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<u>Starlee Sykes</u>	BP America Inc.
<u>T.M. Little</u>	Marathon Oil Corporation
<u>Tony Vaughn</u>	Devon Energy Corporation

From: [Holly Hopkins](#)
To: [Scott Angelle](#)
Cc: [Doug Morris \(douglas.morris@bsee.gov\)](#); [Lars Herbst \(lars.herbst@bsee.gov\)](#)
Subject: API RP 75
Date: Tuesday, September 25, 2018 12:34:18 PM
Attachments: [API RP 75 letter to BSEE 09252018.pdf](#)

Scott,

As you know, API is revising RP 75, attached is a letter seeking BSEE feedback for the task group.

Please let me know if you have any questions.

Thanks,

Holly A. Hopkins
Sr. Policy Advisor, Upstream
American Petroleum Institute
1220 L Street, NW
Washington, DC 20005
202-682-8439 Tel
hopkinsh@api.org



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Holly A. Hopkins
Senior Policy Advisor

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Fax: 202-682-8426

Email hopkinsh@api.org
www.api.org

September 25, 2018

Scott Angelle
Director
Bureau of Safety and Environmental Enforcement
U.S. Department of the Interior
1849 C Street, NW
Washington, DC 20240

Re: API RP 75, *Recommended Practice for Development of a Safety and Environmental Management Program for Offshore Operations and Facilities*

Dear Director Angelle:

As you are aware, API has a task group that has been working for several years to revise API RP 75, *Recommended Practice for Development of a Safety and Environmental Management Program for Offshore Operations and Facilities*. The task group has developed and circulated the attached draft for comment which will be finalized and advanced to ballot before being published.

API would like to take the opportunity to acknowledge the Agency's participation in the work of the task group to date and given the regulatory implications safety and environmental management systems on the US OCS, we would like to also use this opportunity to seek any further Agency feedback that you might offer for consideration by the task group. If possible, we would appreciate hearing from you within the next 30 days. API appreciates the opportunity to work with BSEE to continue to advance our shared objective of safe offshore operations. If you have any questions, please contact me by phone at (202)682-8439, or by e-mail at hopkinsh@api.org.

Sincerely,

A handwritten signature in blue ink that reads "Holly A. Hopkins". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Holly A. Hopkins

cc: Doug Morris, Chief, Office of Offshore Regulatory Programs, BSEE
Lars Herbst, GOM Regional Director, BSEE

Attachment

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April 2018

Safety and Environmental Management System for Offshore Operations and Facilities

API RECOMMENDED PRACTICE 75
FOURTH EDITION, XXX 201X

This draft is for committee use only.

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Foreword

The verbal forms used to express the provisions in this specification are as follows:

- the term “shall” denotes a minimum requirement in order to conform to the specification;
- the term “should” denotes a recommendation or that which is advised but not required in order to conform to the specification;
- the term “may” is used to express permission or a provision that is optional;
- the term “can” is used to express possibility or capability.

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This document was produced under API standardization procedures that ensure appropriate notification and participation in the developmental process and is designated as an API standard. Questions concerning the interpretation of the content of this publication or comments and questions concerning the procedures under which this publication was developed should be directed in writing to the Director of Standards, American Petroleum Institute, 1220 L Street, NW, Washington, DC 20005. Requests for permission to reproduce or translate all or any part of the material published herein should also be addressed to the director.

Generally, API standards are reviewed and revised, reaffirmed, or withdrawn at least every five years. A one-time extension of up to two years may be added to this review cycle. Status of the publication can be ascertained from the API Standards Department, telephone (202) 682-8000. A catalog of API publications and materials is published annually by API, 1220 L Street, NW, Washington, DC 20005.

Suggested revisions are invited and should be submitted to the Standards Department, API, 1220 L Street, NW, Washington, DC 20005, standards@api.org.

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Introduction

This document is intended to describe a performance-based management system focusing on the purpose and expectations for each element of a Safety and Environmental Management Systems (SEMS). It is not intended to be prescriptive in defining how to achieve the purpose and expectations of each element; rather, it allows flexibility appropriate to the size, scope, and risk of a Company's assets and operations.

Once the SEMS is established, it should be implemented, maintained, and periodically reviewed for purposes of continual improvement. Consideration should be given to any activity that can have an impact on offshore Health, Safety, Security and Environment (HSSE) risk.

DRAFT - FOR COMMENT ONLY

1 Scope

This document provides companies engaged in offshore oil and gas operations with a framework for the design and development of a Safety and Environmental Management System (SEMS) to manage and reduce risks associated with health, safety, security, and the environment (HSSE) to prevent incidents and events.

This document applies, in part or whole, to companies engaged in the life cycle of offshore oil and gas operations.

For the purpose of simplicity and clarity in this document, the word “safety” or “safely” can refer to the management of health, safety, security, and environmental risks.

2 Terms and Definitions

For the purposes of this document, the following definitions apply.

3.1

adequate

Sufficient for a specific need or requirement.

3.2

administrative change

Changes to processes, practices, policies, procedures, standards or controlled documents.

3.3

asset

Facilities, equipment, pipelines, or software used in offshore oil and gas operations.

3.4

Company

An operator or contractor engaged in the life cycle of offshore oil and gas operations.

3.5

contractor

The individual, partnership, firm, or corporation retained by the Company to perform work and/or provide a facility, equipment, supplies and/or information.

3.6

convention

The format, writing style, and pictorial style to be used in the preparation of a document.

3.7

effective

The extent to which the desired result is achieved.

3.8

facility

All types of structures permanently or temporarily attached to the seabed (e.g., Mobile offshore drilling units; floating production systems; floating production, storage and offloading facilities; tension-leg platforms; and spars) that are used for exploration, development, and production activities for oil and gas in the OCS. Facility also includes DOI-regulated pipelines

3.9

hazard

An object, physical effect or condition with the potential to harm people, the environment, or property.

3.10

implementation

The execution from initiation to completion of a planned activity, action, process or practice to meet an objective.

3.11

interface agreement

Agreement that provides clarity on which SEMS policies, processes, practices, or procedures will be followed for the performance of the work.

3.12

knowledge

A person's understanding and retention of the requirements needed to perform a role safely.

3.13

management system component

A policy, practice, procedure, process or control which is a part of the overall Safety and Environmental Management System of a Company.

3.14

operator

The individual, partnership, firm, or corporation having control or management of operations on the leased offshore area or a portion thereof.

3.15

other company

An operator or contractor who performs work and/or provides facilities, services, equipment, supplies and/or information for the Company.

3.16

personnel

Employee(s) of the operator and contracted workers who are involved with or affected by specific jobs or tasks.

3.17

procedure

Approved and documented instructions about a specific task or activity that is used to enable the safe and consistent execution of that task or activity.

3.18

risk controls

A human action, physical equipment or system, or management system component (e.g. policy, procedure, practice, process) that is designed to reduce, eliminate, or mitigate HSSE risks, including HSSE risks from the interactions of individuals with each other, equipment, processes, and systems.

3.19

role

A function assigned to a person.

3.20

safe work management

Documented requirements used in the planning, preparation, risk assessment, authorization, execution, monitoring and completion of offshore work that help minimize the potential harm to people, the environment and property.

3.21

safe work practice

Documented requirements for performing a specific type of work that helps minimize the potential harm to people, the environment and property.

3.22

simultaneous operations

Two or more independent operations conducted under common operational control in which the activities of any one operation may impact the safety of personnel, equipment and/or the environment of the other(s).

3.23

skill

A person's ability to apply knowledge and demonstrate proficiency in performing a role or work.

3.24

suitable

Appropriate for a specific purpose or situation.

3.25

validate

To demonstrate that a management system component will consistently yield the desired results.

3.26

work

An activity or task in the life cycle of offshore oil and gas operations.

3 Safety and Environmental Management System Principles and Structure

3.1 Application

Companies should develop a SEMS addressing the elements of this document that are appropriate to its operations. In assessing an existing or new management system against the provisions in this document, the focus should be on assuring that the necessary elements are addressed rather than the formatting, organization, or order of the elements. The rationale should be documented when an element is determined not to be appropriate.

3.2 Principles

3.2.1 General

The principles described below in 3.2.2 through 3.2.5 apply to the design, implementation, maintenance, effectiveness, and continual improvement of a Company's SEMS.

3.2.2 Commitment

The Company and all affected personnel, regardless of title or position, should take responsibility and demonstrate through their actions a commitment to the SEMS. The following concepts are important factors of an effective SEMS:

- a) **Accountability:** personnel hold themselves accountable for understanding and achieving the intent of the SEMS, avoiding complacency, and continuously monitoring existing conditions.
- b) **Work Environment:** an environment exists where successes, concerns, mistakes, and observations are seen as opportunities to learn and can be raised without negative repercussions to the Company or individual.
- c) **Communication:** communication is open, clear, and concise to foster understanding, encourage diverse opinions and constructive debate, and promote transparency.
- d) **Personal Obligation:** personnel perform work in accordance with the SEMS, and communicate any opportunities for improvement in the SEMS.

3.2.3 Risk Management

Risk management is central to the design, development, implementation, maintenance, effectiveness and continual improvement of a SEMS. The SEMS provides a framework for managing HSSE risk by incorporating the following concepts:

- a) **SEMS Design:** the design of the SEMS is based on the Company's organizational structure, culture, and operations, and corresponding HSSE risks.
- b) **Element Interaction:** the elements should interact and support one another to manage and reduce HSSE risk. The impact on other elements is considered when changing an individual element.
- c) **Decision Making:** decisions are made by personnel that possess the appropriate authority, have access to appropriate resources, and understand the HSSE risks.
- d) **Life Cycle:** the SEMS addresses and manages the HSSE risks associated with the life cycle of a Company's offshore operations.

3.2.4 Human Performance

Achieving effective human performance results from the systematic application of knowledge and learnings to improve the interactions of individuals with each other, equipment, and systems. The SEMS influences human performance by incorporating the following concepts:

- a) **Leadership Response:** leaders commit to responding to failures and successes in a way that improves human and team performance.
- b) **Resilient Design:** systems are designed to account for the variability and error-likely situations that occur in the interactions of individuals with each other, equipment, and systems.
- c) **Human Feedback:** it is recognized that human input and adaptability enables effective HSSE performance and continual improvement in SEMS.

- d) **Functionality:** an effective SEMS considers human factors, the end user, the interfaces, the work, and the decision-making processes in the design, implementation, and maintenance of the management system.

3.2.5 Continual Improvement

The SEMS is based on a cycle of continual improvement that is communicated to affected personnel. The following steps can be applied to the SEMS as a whole, as well as to individual elements:

- a) **Set Expectations:** set objectives and expectations; assign accountability and responsibility; and engage involved or affected personnel.
- b) **Establish Plan:** identify risks; assign roles and appropriate resources; develop plan to achieve expectations.
- c) **Execute the Plan:** implement the established actions to achieve expectations.
- d) **Assess Performance:** verify plan is being executed; evaluate and review performance to determine effectiveness in meeting the desired expectations; and identify and analyze improvement opportunities.
- e) **Act on Results:** establish and prioritize improvement actions; use results to inform new expectations.

4 Element Structure

Each of the elements in this document follows the same structure with respect to content.

- **Element name** – identifies the topic of the element.
- **Context** – provides a brief introduction, framework and additional clarifying information.
- **Description** – explains what the element is about and why it is important.
- **Purpose** – provides the overall intended outcomes of the element.
- **Expectations** – lists what is recommended to deliver the outcomes of the element.

The SEMS elements described herein address the following 13 elements

- a) **Element 1: Leadership:** The Company's management is accountable for the establishment, implementation, maintenance, effectiveness and continual improvement of the SEMS.
- b) **Element 2: Managing SEMS Information:** The Company manages and uses accurate, available, and current SEMS information throughout the lifecycle of offshore oil and gas operations.
- c) **Element 3: Risk Assessment and Control:** The Company identifies hazards, assesses risk, determines and implements risk control for assets, activities, and tasks, and communicates the outcomes to affected personnel.
- d) **Element 4: Management of Change (MOC):** The Company manages risks associated with changes that have the potential to harm people, the environment, or property, as well as maintain the accuracy of SEMS information.

- e) Element 5: Procedures: The Company manages risks associated with specific activities and tasks through development and use of procedures to achieve predictable outcomes.
- f) Element 6: Managing Safe Work: The Company uses safe work management, which includes safe work practices, to accomplish offshore work safely.
- g) Element 7: Managing Knowledge and Skills: The Company manages the knowledge and skills of personnel such that personnel have the ability to safely perform assigned roles or work.
- h) Element 8: Managing Asset Design and Integrity: The Company manages the integrity of its assets so that the assets are fit for purpose and perform their intended functions.
- i) Element 9: Pre-Startup Review (PSR): The Company uses a pre-startup review to confirm that assets are ready for safe startup and operations.
- j) Element 10: Emergency Preparedness and Response: The Company prepares for and responds to emergencies to minimize HSSE consequences.
- k) Element 11: Incident Investigation and Learning: The Company investigates incidents, identifies causes, and acts on the results to reduce operating risks.
- l) Element 12: Evaluation and Improvement of SEMS: The Company assures and improves the suitability, adequacy and effectiveness of the SEMS.
- m) Element 13: Managing SEMS Interfaces: The Company identifies, agrees on, establishes, communicates, implements and maintains applicable SEMS interfaces with other companies.

4.1 Element 1: Leadership

4.1.1 Context

The active commitment to safety from leaders at all levels of a Company is critical to the success of SEMS. An effective SEMS requires leaders who own and support the SEMS and actively steward its establishment, implementation, maintenance and continual improvement. Leaders' actions dictate and demonstrate the direction, expectations, and acceptable behaviors to the workforce and influence all aspects of a Company's performance. The term "Leader" encompasses all who have a leadership role, regardless of their title or formally defined responsibilities. The term "Management" specifically refers to Leaders who have formally defined authority and accountability for the establishment, implementation, maintenance and continual improvement of the SEMS.

4.1.2 Description

Leadership is essential to achieving SEMS establishment, implementation, maintenance, effectiveness and continual improvement to deliver healthy, safe, secure, environmentally responsible and reliable operations.

4.1.3 Purpose

The Company's management is accountable for the establishment, implementation, maintenance, effectiveness and continual improvement of the SEMS.

4.1.4 Expectations

The Company establishes, implements, and maintains requirements for the following:

- a) Defining and documenting management commitment to and ownership of the SEMS.
- b) Assuring that HSSE risks are managed commensurate with the nature and magnitude of the risk, including risks associated with the interactions of individuals with each other, equipment, processes, and systems (see 4.3 for more detail).
- c) Defining an organizational structure and clearly designating accountabilities to enable the establishment, implementation, maintenance, and continual improvement of the SEMS.
- d) Determining the roles, responsibilities, authorities, knowledge, and skills for all personnel within the scope of the SEMS (see 4.7 for more detail).
- e) Providing the necessary resources and engaging affected personnel, including subject matter experts, for the design, implementation, maintenance, and continual improvement of the SEMS.
- f) Engaging proactively and visibly in the establishment, implementation, maintenance, and continual improvement of the SEMS.
- g) Establishing objectives and requirements, as well as timeframes for meeting the objectives and requirements.
- h) Considering historical data, current activity and future operations to establish indicators to monitor and improve performance.
- i) Providing personnel appropriate access to the SEMS (see 4.2 for more detail).
- j) Communicating the expectations and effectiveness of the SEMS to personnel and stakeholders and appropriately responding to feedback.
- k) Holding personnel accountable for performing their work in accordance with the SEMS, including compliance with legal and regulatory requirements and conformance with internal requirements.
- l) Maintaining a work environment which promotes the sharing of concerns, mistakes, and observations as opportunities to learn.
- m) Evaluating the SEMS to assure and improve its suitability, adequacy, and effectiveness.

4.2 Element 2: Managing SEMS Information

4.2.1 Context

SEMS information is used to make informed decisions during the lifecycle of offshore oil and gas operations. Information created or used within design, procurement, fabrication, construction, commissioning, handover, start-up, operation, maintenance, inspection, testing, or decommissioning is within the scope of this element. The objective of this element is to have the right SEMS information available to the right people at the right time.

4.2.2 Description

Systematically creating and managing SEMS information is a key to operating in a safe and environmentally responsible manner. SEMS information is created or used during development, implementation and maintenance of the SEMS elements during the life cycle of offshore oil and gas operations.

4.2.3 Purpose

The Company identifies, manages, and uses accurate, available, and current SEMS information throughout the lifecycle of offshore oil and gas operations.

4.2.4 Expectations

The Company establishes, implements, and maintains requirements for the following.

- a) Determining the SEMS information to be created or managed taking into account the intended users, the interfaces, the work, and decision-making processes.
- b) Determining the roles, responsibilities, authorities, knowledge, and skills of personnel involved in creating or managing SEMS Information (see 4.7 for more detail).
- c) Determining the regulations, codes, standards, and practices applicable to creating or managing SEMS information.
- d) Determining the criteria for controlling SEMS information including accessing, securing, documenting, communicating (internally and externally), use, and retention.
- e) Managing the availability, control, distribution (internally and externally), use and retention of SEMS information.
- f) Periodically verifying SEMS information is available, accurate, and secure.
- g) Managing identified deviations and resolving identified deficiencies and improvement opportunities in SEMS information.
- h) Managing changes to SEMS information (see 4.4 for more detail).

4.3 Element 3: Risk Assessment and Risk Controls

4.3.1 Context

This element gives guidance on what is necessary to manage HSSE risks associated with the full lifecycle of offshore operations. It is intended to over covers risk from a facility level to task and activity level. Risk Assessment involves identifying hazards, evaluating the risks posed by the hazards (including the potential consequences and the likelihood of such consequences), and developing risk controls. Risk Controls are the actions, equipment, or management system components to be implemented and maintained to eliminate, reduce, or mitigate the identified risks.

4.3.2 Description

A systematic approach to managing HSSE risk covering assets, activities, and tasks is key to a successful SEMS. This approach involves identifying hazards, assessing and evaluating risk, and determining appropriate risk controls.

4.3.3 Purpose

The Company identifies hazards, assesses risk, determines and implements risk controls for assets, activities, and tasks, and communicates the outcomes to affected personnel. Assessment

4.3.4 Expectations

The Company establishes, implements, and maintains requirements for the following:

- a) Identifying the assets, activities, and tasks that require risk assessment and risk controls.
- a) Selecting risk assessment schedule and methodology.
- b) Determining the roles, responsibilities, authorities, knowledge, and skills of personnel involved in risk assessment and risk controls.
- c) Determining the personnel to be involved in specific risk assessments and risk controls.
- d) Identifying hazards associated with the assets, activities, and tasks that require risk assessment, including those associated with the interactions of individuals with each other, equipment, and systems.
- e) Performing risk assessment and risk evaluation for the identified hazards.
- f) Recommending and approving actions and risk controls to manage risk based on company decision-making processes.
- g) Communicating risks and risk controls to affected personnel.
- h) Completing actions and implementing risk controls within an approved timeframe.
- i) Periodically reviewing risk assessments and risk controls to evaluate if they remain suitable, adequate, and effective.
- j) Managing identified deviations and resolving identified deficiencies and improvement opportunities in risk assessments and risk controls.
- k) Managing changes to risk assessments and risk controls (see 4.4 for more detail).
- l) Appropriately documenting risk assessment and risk controls (see 4.2 for more detail).

4.4 Element 4: Management of Change

4.4.1 Context

Management of Change (MOC) is a documented review used to manage HSSE risks associated with changes, whether permanent, temporary, or as the result of incremental change. These changes are typically technical, administrative, or organizational in nature. MOC also communicate changes and their impacts to affected personnel. MOC may not apply to situations involving replacement in kind (such as replacement of one component by another component with the same performance capabilities).

4.4.2 Description

Systematically managing temporary and permanent changes with potential HSSE impacts is key to a successful SEMS. The Management of Change (MOC) process involves identifying the changes, controlling the hazards introduced or impacted by the changes, communicating with those affected by the changes, and documenting the changes.

4.4.3 Purpose

The Company manages risks associated with changes that have the potential to harm people, the environment, or property, as well as maintain the accuracy of SEMS information.

4.4.4 Expectations

The Company establishes, implements, and maintains requirements for the following:

- a) Identifying the types of changes that initiate the use of a Management of Change (MOC) process.
- b) Identifying the MOC process to be used for a given type of change.
- c) Determining the roles, responsibilities, authorities, knowledge, and skills of personnel involved in the MOC process.
- d) Defining the reason, scope, and planned duration of changes.
- e) Conducting risk assessment and control of HSSE hazards introduced or affected by the changes. (see 4.3 for more detail).
- f) Reviewing and approving changes and related actions prior to implementation.
- g) Communicating the changes and their impacts to those determined to be affected by the changes, as appropriate.
- h) Completing actions and implementing changes within the approved time frame.
- i) Determining how and when a change is closed.
- j) Managing identified deviations and resolving identified deficiencies and improvement opportunities in the MOC process.
- k) Managing changes to the MOC process.
- l) Appropriately documenting the changes, including updating appropriate SEMS information (see 4.2 for more detail).

4.5 Element 5: Procedures

4.5.1 Context

Procedures provide instructions that allow for work to be performed consistently and safely based on knowledge at the time the procedure is developed. Procedures are approved and documented; the documentation may take a variety of forms (e.g. electronic, paper, audio, etc.).

A systematic way to manage procedures allows for applicable personnel to be involved, incorporates appropriate risk controls, and takes into account end users at all stages. While procedures detail prescribed actions, user judgment is necessary to account for and react to real-time changes and conditions (e.g. Stop Work).

4.5.2 Description

A systematic approach for the establishment, implementation, and maintenance of procedures is a key to operating in a safe and environmentally responsible manner.

4.5.3 Purpose

The Company manages risks associated with specific activities and tasks through development and use of procedures to achieve predictable outcomes.

4.5.4 Expectations

The Company establishes, implements, and maintains requirements for the following:

- a) Identifying the routine and non-routine activities and tasks which require procedures.
- b) Incorporating risk controls, including applicable equipment and human barriers, from activity and task risk assessments, and other applicable sources, into procedures (see 4.3 for more detail).
- c) Identifying the knowledge and skills of personnel involved in developing procedures.
- d) Identifying the roles, responsibilities, authorities, knowledge, and skills of personnel accountable for approving procedures.
- e) Determining the format, content, conventions, method of delivery, and communication methods for procedures taking into account the intended procedure users.
- f) Determining the roles, responsibilities, knowledge, and skills of personnel authorized to use procedures.
- g) Appropriately documenting procedures (see 4.2 for more detail).
- h) Accessing and using procedures.
- i) Responding to and communicating when procedures cannot be performed as documented or when procedures produce an unintended result.
- j) Periodically verifying procedures can be performed as documented.
- k) Periodically validating procedures.

- l) Engaging procedure users when verifying and validating procedures.
- m) Managing identified deviations and resolving identified deficiencies and improvement opportunities in procedures, including those identified from internal and external learnings.
- n) Managing changes to procedures (see 4.4 for more detail).

4.6 Element 6: Safe Work Management and Safe Work Practices

4.6.1 Context

Safely executing work offshore is an essential aspect of SEMS. Work that is effectively managed using safe work practices incorporating risk controls has a higher likelihood of a safer result. This Element contains the expectations of SEMS focused on safe work, from planning through execution. Safe work management encompasses the documented requirements of how to execute work safely, whereas safe work practices refer to specific requirements for specific types of work (i.e. working at height, confined space entry, etc.). The term 'safe' or 'safely' used herein refers to the management of safety, health, security, and environment aspects.

4.6.2 Description

Systematically managing offshore work is a key to accomplishing work safely and in an environmentally responsible manner. In the context of this element, systematically managing safe work includes the planning, preparation, risk-assessment, authorization, execution, monitoring, and completion of work and the use of safe work practices which establish requirements for specific types of work that help minimize the potential harm to people, the environment and property.

4.6.3 Purpose

The Company uses safe work management, which includes safe work practices, to accomplish offshore work safely.

4.6.4 Expectations

The Company establishes, implements, and maintains requirements for the following:

Expectations for Safe Work Management

- a) Identifying work which requires documented practices for safe work management and for developing those practices.
- b) Assessing risk prior to the execution of work (see 4.3 for more detail).
- c) Escalating the review and authorization of work based on risk.
- d) Handing over management of ongoing offshore work from one individual to another individual.
- e) Managing simultaneous operations.

Expectations for Safe Work Practices

- f) Identifying the types of work that require a documented safe work practice and for developing the safe work practices.

Common Expectations for Safe Work Management and Safe Work Practices

- g) Determining the roles, responsibilities, authorities, knowledge, and skills of personnel involved in developing and using safe work management and safe work practices (see 4.7 for more detail).
- h) Engaging end-users in the development of safe work management and safe work practices to help mitigate error-likely situations from the interactions of individuals with each other, equipment, and systems.
- i) Communicating safe work management and safe work practices to affected personnel.
- j) Periodically verifying that the safe work management and safe work practices can be performed or used as documented.
- k) Validating safe work management and safe work practices.
- l) Managing identified deviations and resolving identified deficiencies and improvement opportunities in safe work management and safe work practices.
- m) Managing changes to safe work management and safe work practices (see 4.4 for more detail).
- n) Appropriately documenting and recording information related to safe work management and safe work practices (see 4.2 for more detail).

4.7 Element 7: Managing Knowledge and Skills

4.7.1 Context

Prior to work execution, personnel should have the required knowledge and skills to perform their roles and responsibilities safely. This Element addresses the knowledge and skills of individuals, not teams. Each member of a team should have the required knowledge and skills to conduct the activities or tasks that is to be completed by that member. Roles and responsibilities within this element include both normal and abnormal activities and tasks (i.e. emergency response and control).

4.7.2 Description

Systematically managing the knowledge and skills of personnel is a key to working safely and in an environmentally responsible manner. Systematically managing knowledge and skills includes determining the knowledge and skills required, delivering the required knowledge and skills, and verifying that personnel have the required knowledge and skills.

4.7.3 Purpose

The Company manages the knowledge and skills of personnel such that personnel have the ability to safely perform assigned roles or work.

4.7.4 Expectations

The Company establishes, implements, and maintains requirements for the following.

- a) Identifying the roles and work that necessitate documented knowledge and skills management.
- b) Determining the roles, responsibilities, knowledge, and skills of personnel involved in knowledge and skills management.

- c) Incorporating impacts from the interactions of individuals with each other, equipment, and systems and error-likely situations into knowledge and skills management.
- d) Engaging applicable personnel in the design and continual improvement of knowledge and skills management.
- e) Determining the knowledge and skills for the identified roles, responsibilities, and work.
- f) Selecting the schedules and methods for delivering the knowledge and skills to the personnel assigned the identified roles and work.
- g) Delivering the knowledge and skills to the personnel assigned the identified roles and work.
- h) Periodically assessing personnel assigned the identified roles or work to validate retention of the determined knowledge and skills, and remediating if applicable.
- i) Periodically reviewing that the determined knowledge and skills are suitable, adequate and effective.
- j) Periodically verifying and validating the effectiveness of the content, methods and personnel delivering the determined knowledge and skills.
- k) Managing identified deviations and resolving identified deficiencies and improvement opportunities in knowledge and skills management.
- l) Managing changes to the determined knowledge and skills for the identified roles or work (see 4.4 for more detail).
- m) Documenting the appropriate the knowledge and skills management information (see 4.2 for more detail).

4.8 Element 8: Managing Asset Design and Integrity

4.8.1 Context

It is essential for a Company to manage the design and integrity of its assets to establish and maintain a safe operating environment. Typical assets could include fixed or floating structures, temporary/permanent/rental equipment, or software used by or on behalf of the Company. A Company can assume responsibility of an asset at any point in its life. This element addresses design, procurement, fabrication, construction, commissioning, handover, start-up, operation, maintenance, inspection, testing, or decommissioning.

4.8.2 Description

The systematic approach to managing asset integrity activities is a key to designing, constructing, and operating an asset in a safe and environmentally responsible manner and maintaining overall system integrity. Asset integrity activities include, but are not limited to, inspection, testing, monitoring, maintenance, quality assurance, and quality control.

4.8.3 Purpose

The Company manages the integrity of its assets so that the assets are fit for purpose and perform their intended functions.

4.8.4 Expectations

The Company establishes, implements, and maintains requirements for the following.

- a) Identifying the assets that are to be designed, operated and managed.
- b) Determining the roles, responsibilities, authorities, knowledge, and skills of personnel involved in asset design and integrity management (see 4.7 for more detail).
- c) Determining the basis of design, operational limits, and expected performance of the assets.
- d) Determining the SEMS information necessary to safely manage assets (see 4.2 for more detail).
- e) Applying risk assessment and controls to asset design and integrity activities (see 4.3 for more detail).
- f) Managing the impacts that the interactions of individuals with each other, equipment, and systems have on asset design and integrity management.
- g) Determining the asset integrity activities to appropriately manage risk (see 4.3 for more detail).
- h) Verifying that the asset integrity activities can be performed as intended.
- i) Verifying design specifications for new or significantly modified assets have been met prior to operation (see Pre-Startup Review for more detail).
- j) Determining the acceptance criteria, procedures, prioritization, frequency, and documentation information for the asset integrity activities.
- k) Reviewing the results and verifying the timelines of the asset integrity activities.
- l) Managing identified deviations and resolving identified deficiencies and improvement opportunities in asset design and integrity.
- m) Managing spare parts and equipment.
- n) Managing changes to asset design and integrity management (see 4.4 for more detail).
- o) Appropriately documenting asset design and integrity activities (see 4.2 for more detail)

4.9 Element 9: Pre-Startup Review

4.9.1 Context

A pre-startup review (PSR) assures that assets meet the design or operating intent, and verifies the completeness, operability, and safety of the assets. The PSR should be conducted based on Company criteria. A PSR is conducted prior to initial startup, and may also be conducted prior to restart based on risk.

4.9.2 Description

The pre-startup review (PSR) is a systematic HSSE review conducted prior to startup of new, significantly modified, or out of service assets to achieve incident-free startup.

4.9.3 Purpose

The Company uses a pre-startup review to confirm that assets are ready for safe startup and operations.

4.9.4 Expectations

The Company establishes, implements, and maintains requirements for the following.

- a) Identifying the criteria that trigger a pre-startup review (PSR).
- b) Identifying the PSR process(es) to be used taking into account the current state of the asset(s).
- c) Determining the roles, responsibilities, authorities, knowledge, and skills of personnel involved in PSR.
- d) Confirming the actual construction and equipment meets specifications (see 4.8 or more detail).
- e) Confirming procedures are adequate and in place (see **Procedures** for more detail).
- f) Confirming relevant SEMS information is accurate and accessible (see 4.2 for more detail).
- g) Confirming risk assessments and risk controls have been addressed and implemented (see 4.3 for more detail).
- h) Confirming affected personnel have the required knowledge and skills (see 4.7 for more detail).
- i) Confirming applicable SEMS interfaces are managed (see 4.13 for more detail).
- j) Managing identified deviations and confirming identified deficiencies and improvement opportunities have been addressed prior to startup.
- k) Managing changes identified in the PSR or to the PSR process (see 4.4 for more detail).
- l) Authorizing and communicating that the asset(s) is ready for safe startup and operations.
- m) Appropriately documenting PSR (see 4.2 for more detail).

4.10 Element 10: Emergency Preparedness and Response

4.10.1 Context

Emergency preparedness consists of being ready to respond to emergencies, including developing and exercising response plans. Emergency response consists of the execution of both the immediate and long-term onsite and offsite response actions. The scope of this element is limited to the actions that are necessary to stabilize conditions such that no harm or no further harm is caused. Long-term restoration or remediation activities are outside the scope of this element.

4.10.2 Description

Systematically preparing for and responding to emergencies is key to minimizing HSSE consequences.

4.10.3 Purpose

The Company prepares for and responds to emergencies to minimize HSSE consequences.

4.10.4 Expectations

The Company establishes, implements, and maintains requirements for the following.

- a) Identifying scenarios that could necessitate emergency response (see 4.3 for more information).
- b) Developing documented emergency response plan(s) for identified scenarios.
- c) Determining the roles, responsibilities, authorities, knowledge, and skills for personnel involved in emergency preparedness and response (see 4.7 for more detail).
- d) Communicating emergency response plans to affected organizations and personnel before an emergency, and making plans appropriately accessible.
- e) Communicating or engaging with affected organizations and personnel during emergency response.
- f) Identifying and using an incident command system as required.
- g) Organizing responders to work together, make decisions, and respond to emergencies.
- h) Identifying and verifying the availability of organizations and resources for emergency preparedness and response.
- i) Periodically reviewing emergency response plans and revising as necessary.
- j) Defining, planning, and conducting drills and exercises on identified emergency scenarios on a periodic basis. Drills and exercises should include scenarios where one or more risk controls do not function as intended, as well as one in which risk controls function as intended.
- k) Assessing drills, exercises, and actual responses to validate the emergency response and to identify continual improvement opportunities.
- l) Managing identified deviations and confirming identified deficiencies and improvement opportunities in emergency response.
- m) Managing changes to emergency response (see 4.4 for more detail).
- n) Appropriately documenting emergency response information, including emergency response plans, drills and exercise scenarios, and results from drills (see 4.2 for more detail).

4.11 Element 11: Incident Investigation and Learning

4.11.1 Context

The recommendations in this element apply to activities following incidents. The primary objective of the investigation of an incident is the prevention of incidents. It is not the purpose of recommended activities to apportion blame or liability. Another objective of these recommendations is to promote incident prevention by analysis of incident data and by a prompt exchange of information.

4.11.2 Description

Systematically applying learnings from incidents is a key contributor to continual improvement in SEMS. Learnings can be captured through investigations to determine causes that may reveal systemic problems and opportunities for improvement within the management system. Actions should include sharing of the causes and lessons learned within the organization and externally, as appropriate.

4.11.3 Purpose

The Company investigates incidents, identifies causes, and acts on the results to reduce operating risks.

4.11.4 Expectations

The Company establishes, implements, and maintains requirements for the following:

- a) Defining the types of incidents that should be reported and/or investigated.
- b) Determining the roles, responsibilities, authorities, knowledge, and skills of personnel involved in incident investigation and learning.
- c) Determining the appropriate knowledge and skills needed by the individuals or team conducting the investigation, with consideration being given to knowledge of the operations, familiarity with investigation techniques, and other specialized knowledge that is viewed as relevant or necessary.
- d) Identifying the causes of incidents during an investigation.
- e) Incorporating human performance aspects into investigations and the identification of causes, including the role the interactions between individuals, equipment, and systems may have had in contributing to or mitigating the incidents.
- f) Assigning personnel responsibilities and target dates for implementation and completion for actions that address the causes of the incident.
- g) Validating that the assigned actions were effective in addressing the causes of the incident.
- h) Appropriately sharing the cause(s) and the lessons learned internally and externally.
- i) Managing identified deviations and confirming identified deficiencies and improvement opportunities in incident investigation and learning.
- j) Managing changes to incident investigation and learning (see 4.4 for more detail).
- k) Appropriately documenting incident investigations and learnings (see 4.2 for more detail).

4.12 Element 12: Evaluation and Improvement of SEMS

4.12.1 Context

The scope of this element includes activities that evaluate the SEMS. Evaluation activities can vary widely and can range from formal evaluations to use of performance indicators to observations. They provide an understanding of the effectiveness of the SEMS and identify deficiencies and improvement opportunities.

Typical SEMS evaluation activities may include, but are not limited to

- a) audits (internal and external),
- b) assessments (including self-assessment),
- c) performance indicators,
- d) observations, and
- e) formal reviews.

4.12.2 Description

Evaluating the SEMS is a key to providing assurance that the management system elements are established, implemented, and maintained. Evaluation activities also facilitate continual improvement of the SEMS.

4.12.3 Purpose

The Company assures and improves the suitability, adequacy and effectiveness of the SEMS.

4.12.4 Expectations

The Company establishes, implements, and maintains requirements for the following:

- a) Identifying the organizations, assets, and work to be evaluated.
- b) Determining the scope and objectives for evaluation activities.
- c) Selecting the types and methodologies for evaluation activities.
- d) Defining roles, responsibilities, authorities, knowledge, and skills of personnel planning, performing, and analyzing evaluation activities.
- e) Performing the evaluation activities per established schedules and frequencies.
- f) Analyzing results of evaluation activities to assure that the SEMS continues to be suitable, adequate, and effective.
- g) Analyzing results of evaluation activities to identify deviations, deficiencies, and improvement opportunities of the SEMS.
- h) Managing, prioritizing, and resolving the identified deviations, deficiencies, and improvement opportunities, including corrective actions.
- i) Communicating the results of evaluation activities to the appropriate stakeholders.
- j) Managing changes to SEMS evaluation and improvement requirements (see 4.4 for more detail).
- k) Appropriately documenting SEMS evaluation and improvement information, including the scope, results, and subsequent actions (see 4.2 for more detail).

4.13 Element 13: SEMS Interface Management

4.13.1 Context

A variety of working relationships exist in the life cycle of offshore oil and gas operations that may require multiple SEMS interfaces among the engaged entities. For the purpose of this element, a Company with a capital 'C' represents an operator or contractor who intends to establish, implement and maintain a SEMS. The term 'other companies' with a small 'c' represents an operator or contractor that performs work and/or provides facilities, services, equipment, supplies and/or information for a company with a capital 'C'. The Expectations below may apply to a Company, to other companies, or both, depending the relationship.

In the simplest case, a Company can use its own employees and assets; if it does not use other companies to work on its behalf, there are no SEMS interfaces to manage. A more complex case would be a Company that operates using other companies to conduct work on its behalf, with those other companies likewise using additional other companies to conduct work on behalf of the Company.. In such a case, there would be multiple SEMS interfaces to manage by the Company and the other companies, with some entities acting as both the Company and as the other company. Of course, there are multiple relationship cases besides these two examples. Pictorial representations of some of these SEMS interfaces cases are shown in Figure 1.

By its very nature, work involving multiple companies is more complex than a single Company performing work individually. This complexity may introduce additional risks that should be considered when establishing, implementing, and maintaining SEMS interfaces.

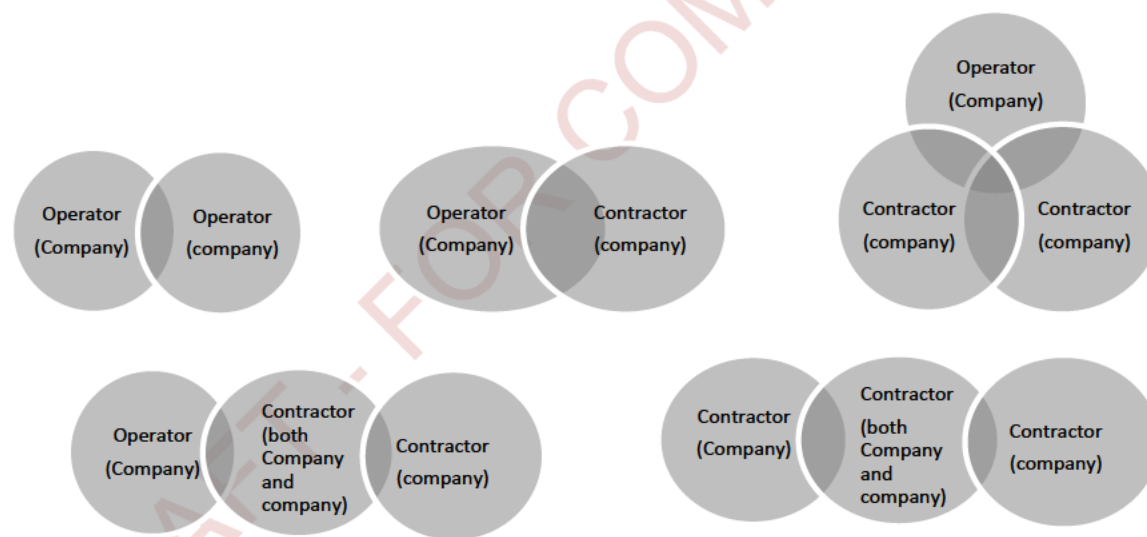


Figure 1 — SEMS Interface Examples

4.13.2 Description

Management of SEMS interfaces when multiple companies are involved in the planning and execution of work is essential in delivering safe and environmentally responsible operations. SEMS Interface Management addresses how companies manage SEMS alignment, communication and coordination with respect to the work.

4.13.3 Purpose

The Company identifies, agrees on, establishes, communicates, implements and maintains applicable SEMS interfaces with other companies.

4.13.4 Expectations

The Company establishes, implements, and maintains requirements for the following.

- a) Defining work to be performed by other companies.
- b) Determining the roles, responsibilities, authorities, knowledge, and skills of personnel involved in identifying, developing, and managing SEMS interfaces
- c) Determining personnel skills and knowledge needed by other companies for the work (see 4.7 for more detail).
- d) Determining the facility, equipment, supplies, and/or information to be provided by other companies for the work.
- e) Communicating the Company's applicable SEMS requirements to other prospective companies that may do the work.
- f) Communicating HSSE hazards that other companies may encounter or introduce (see 4.3 for more detail).
- g) Determining the criteria for evaluating and selecting other companies.
- h) Agreeing on and communicating applicable SEMS requirements between the Company and other companies involved in the work.
- i) Appropriately documenting the SEMS interfaces (see 4.2 for more detail).
- j) Providing site orientation for other companies' personnel performing the work, including agreed SEMS interfaces.
- k) Verifying the skills and knowledge of other companies' personnel performing the work.
- l) Verifying other companies' facilities, equipment, supplies, and information for the work meet Company requirements.
- m) Verifying the work is performed in accordance with agreed Company SEMS requirements and/or SEMS interfaces.
- n) Providing feedback on other companies' HSSE performance and the SEMS interface to drive improvement.
- o) Managing applicable SEMS interfaces among multiple other companies concurrently engaged in work, including managing communications and decision-making in response to changing conditions.
- p) Using applicable expectations to manage interfaces amongst multiple other companies concurrently engaged in work but hired by separate companies.

- q) Managing identified deviations and resolving identified deficiencies and improvement opportunities in SEMS interfaces.
- r) Managing changes to SEMS interfaces (see 4.4 for more detail).

DRAFT - FOR COMMENT ONLY

From: [Scott Angelle](#)
To: [Holly Hopkins](#)
Cc: [Doug Morris \(douglas.morris@bsee.gov\)](#); [Lars Herbst \(lars.herbst@bsee.gov\)](#)
Subject: Re: [EXTERNAL] API RP 75
Date: Tuesday, September 25, 2018 2:16:26 PM

Thanks ! Through a copy of this email I'm asking Doug and Lars to provide me with comments for my consideration in sharing as bsee feedback. Thanks
Sent from my iPhone

On Sep 25, 2018, at 12:32 PM, Holly Hopkins <hopkinsh@api.org> wrote:

Scott,

As you know, API is revising RP 75, attached is a letter seeking BSEE feedback for the task group.

Please let me know if you have any questions.

Thanks,

Holly A. Hopkins
Sr. Policy Advisor, Upstream
American Petroleum Institute
1220 L Street, NW
Washington, DC 20005
202-682-8439 Tel
hopkinsh@api.org
[<image001.jpg>](#)

This transmission contains information that is privileged and confidential and is intended solely for use of the individual(s) listed above. If you received the communication in error, please notify me immediately. Any dissemination or copying of this communication by anyone other than the individual(s) listed above is prohibited.

<API RP 75 letter to BSEE 09252018.pdf>

From: [Holly Hopkins](#)
To: [Scott Angelle](#); [Doug Morris](#)
Cc: [Evan H. Zimmerman \(evan@zimmerman-co.com\)](#)
Subject: RE:
Date: Wednesday, September 26, 2018 10:04:33 AM

API and OOC look forward to working with you on this issue. We anxiously await the list to get started. Thanks

-----Original Message-----

From: Scott Angelle <scott.angelle@bsee.gov>
Sent: Thursday, September 20, 2018 6:48 PM
To: Doug Morris <douglas.morris@bsee.gov>
Cc: Holly Hopkins <hopkinsh@api.org>
Subject:

Please advise when you provide the list to holly of the systems/equipment whose failure would result in significant effect on health, safety or the environment Thanks
Sent from my iPhone

From: [Scott Angelle](#)
To: [Holly Hopkins](#); Evan@offshoreoperators.com
Cc: marcella.burke@sol.doi.gov
Subject: Bast
Date: Thursday, October 4, 2018 6:26:25 AM

Good morning. It was a pleasure to visit with yesterday at the noia conference in San Antonio.

Additionally, thank you for the opportunity to visit with selected members of your organizations to discuss our efforts on the best available and safest technologies (bast) program during my recent visit to Houston.

We look forward to receiving your comments by [November 15, 2018](#). Thanks for your interest in a safer outer continental shelf.

Sent from my iPhone

From: [Scott Angelle](#)
To: [Holly Hopkins](#); Evan@offshoreoperators.com
Subject: Fwd: Bast
Date: Monday, October 8, 2018 11:56:24 AM

Good morning. Just following up to make certain you have received the below from last week.

Sent from my iPhone

Begin forwarded message:

From: Scott Angelle <scott.angelle@bsee.gov>
Date: October 4, 2018 at 5:26:24 AM CDT
To: Holly Hopkins <hopkinsh@api.org>, Evan@offshoreoperators.com
Cc: marcella.burke@sol.doi.gov
Subject: Bast

Good morning. It was a pleasure to visit with yesterday at the noia conference in San Antonio.

Additionally, thank you for the opportunity to visit with selected members of your organizations to discuss our efforts on the best available and safest technologies (bast) program during my recent visit to Houston. We look forward to receiving your comments by [November 15, 2018](#). Thanks for your interest in a safer outer continental shelf.

Sent from my iPhone

From: [Holly Hopkins](#)
To: [Scott Angelle](#); Evan@offshoreoperators.com
Subject: RE: Bast
Date: Monday, October 8, 2018 11:58:51 AM

Yes, it was received. Thanks

From: Scott Angelle <scott.angelle@bsee.gov>
Sent: Monday, October 8, 2018 11:56 AM
To: Holly Hopkins <hopkinsh@api.org>; Evan@offshoreoperators.com
Subject: Fwd: Bast

Good morning. Just following up to make certain you have received the below from last week.

Sent from my iPhone

Begin forwarded message:

From: Scott Angelle <scott.angelle@bsee.gov>
Date: October 4, 2018 at 5:26:24 AM CDT
To: Holly Hopkins <hopkinsh@api.org>, Evan@offshoreoperators.com
Cc: marcella.burke@sol.doi.gov
Subject: Bast

Good morning. It was a pleasure to visit with yesterday at the noia conference in San Antonio.

Additionally, thank you for the opportunity to visit with selected members of your organizations to discuss our efforts on the best available and safest technologies (bast) program during my recent visit to Houston.
We look forward to receiving your comments by [November 15, 2018](#). Thanks for your interest in a safer outer continental shelf.

Sent from my iPhone

From: [Scott Angelle](#)
To: [Holly Hopkins](#)
Cc: [Evan@offshoreoperators.com](#)
Subject: Re: [EXTERNAL] RE: Bast
Date: Monday, October 8, 2018 11:59:15 AM

Thanks

Sent from my iPhone

On Oct 8, 2018, at 10:58 AM, Holly Hopkins <hopkinsh@api.org> wrote:

Yes, it was received. Thanks

From: Scott Angelle <scott.angelle@bsee.gov>
Sent: Monday, October 8, 2018 11:56 AM
To: Holly Hopkins <hopkinsh@api.org>; Evan@offshoreoperators.com
Subject: Fwd: Bast

Good morning. Just following up to make certain you have received the below from last week.

Sent from my iPhone

Begin forwarded message:

From: Scott Angelle <scott.angelle@bsee.gov>
Date: October 4, 2018 at 5:26:24 AM CDT
To: Holly Hopkins <hopkinsh@api.org>, Evan@offshoreoperators.com
Cc: marcella.burke@sol.doi.gov
Subject: Bast

Good morning. It was a pleasure to visit with yesterday at the noia conference in San Antonio.

Additionally, thank you for the opportunity to visit with selected members of your organizations to discuss our efforts on the best available and safest technologies (bast) program during my recent visit to Houston.

We look forward to receiving your comments by [November 15, 2018](#).

Thanks for your interest in a safer outer continental shelf.

Sent from my iPhone

From: [Registrar](#)
To: [Scott Angelle](#)
Subject: 6th Annual COS Forum Feedback Requested / Conference Proceedings
Date: Wednesday, October 17, 2018 3:14:45 PM

COS - Edited



Thank you for attending the Sixth Annual COS Forum.

Please complete an online survey on the Sixth Annual COS Forum [here](#).

After you complete the survey you will receive a link to the conference proceedings.

We look forward to seeing you at the Seventh Annual COS Forum September 17th - 18th, 2019 .

Thank you,

Center for Offshore Safety



From: [Holly Hopkins](#)
To: [Scott Angelle](#)
Cc: [Evan@offshoreoperators.com](#); [Beard, Preston](#); ["Monica Mcbrady"](#)
Subject: RE: Bast
Date: Friday, October 19, 2018 2:44:34 PM

Scott,

Evan and I would like to schedule time with you on/after November 14/15 to deliver our comments on BAST. Please let us know what works for you.

Thanks,
Holly

From: Scott Angelle <scott.angelle@bsee.gov>
Sent: Thursday, October 4, 2018 6:26 AM
To: Holly Hopkins <hopkinsh@api.org>; Evan@offshoreoperators.com
Cc: marcella.burke@sol.doi.gov
Subject: Bast

Good morning. It was a pleasure to visit with yesterday at the noia conference in San Antonio.

Additionally, thank you for the opportunity to visit with selected members of your organizations to discuss our efforts on the best available and safest technologies (bast) program during my recent visit to Houston.

We look forward to receiving your comments by [November 15, 2018](#). Thanks for your interest in a safer outer continental shelf.

Sent from my iPhone

From: [Scott Angelle](#)
To: [Holly Hopkins](#)
Cc: [Evan@offshoreoperators.com](#); [Beard, Preston](#); [Monica Mcbrady](#)
Subject: Re: [EXTERNAL] RE: Bast
Date: Friday, October 19, 2018 4:17:33 PM

Thanks ! Preston and Monica please accommodate
Sent from my iPhone

On Oct 19, 2018, at 2:44 PM, Holly Hopkins <hopkinsh@api.org> wrote:

Scott,

Evan and I would like to schedule time with you on/after November 14/15 to deliver our comments on BAST. Please let us know what works for you.

Thanks,
Holly

From: Scott Angelle <scott.angelle@bsee.gov>
Sent: Thursday, October 4, 2018 6:26 AM
To: Holly Hopkins <hopkinsh@api.org>; Evan@offshoreoperators.com
Cc: marcella.burke@sol.doi.gov
Subject: Bast

Good morning. It was a pleasure to visit with yesterday at the noia conference in San Antonio.

Additionally, thank you for the opportunity to visit with selected members of your organizations to discuss our efforts on the best available and safest technologies (bast) program during my recent visit to Houston.
We look forward to receiving your comments by [November 15, 2018](#). Thanks for your interest in a safer outer continental shelf.

Sent from my iPhone

From: [Scott Angelle](#)
To: [Holly Hopkins](#)
Cc: [Evan@offshoreoperators.com](#); [Beard, Preston](#); [Monica Mcbrady](#)
Subject: Re: [EXTERNAL] RE: Bast
Date: Sunday, October 21, 2018 1:51:17 PM

Those dates are a challenge as I will be offsite for meetings. Please suggest alternatives.
Thanks

Sent from my iPhone

On Oct 19, 2018, at 2:44 PM, Holly Hopkins <hopkinsh@api.org> wrote:

Scott,

Evan and I would like to schedule time with you on/after November 14/15 to deliver our comments on BAST. Please let us know what works for you.

Thanks,
Holly

From: Scott Angelle <scott.angelle@bsee.gov>
Sent: Thursday, October 4, 2018 6:26 AM
To: Holly Hopkins <hopkinsh@api.org>; Evan@offshoreoperators.com
Cc: marcella.burke@sol.doi.gov
Subject: Bast

Good morning. It was a pleasure to visit with yesterday at the noia conference in San Antonio.

Additionally, thank you for the opportunity to visit with selected members of your organizations to discuss our efforts on the best available and safest technologies (bast) program during my recent visit to Houston.
We look forward to receiving your comments by [November 15, 2018](#). Thanks for your interest in a safer outer continental shelf.

Sent from my iPhone

From: [Scott Angelle](#)
To: [Holly Hopkins](#); [Evan Zimmerman](#)
Subject: Fwd: Industry sites to post position
Date: Monday, October 22, 2018 5:41:33 PM

Please share this with your network

Sent from my iPhone

Begin forwarded message:

From: "Mabry, Scott" <scott.mabry@bsee.gov>
Date: October 22, 2018 at 3:19:59 PM EDT
To: Scott Angelle <scott.angelle@bsee.gov>
Subject: Fwd: Industry sites to post position

Just FYI. OTB is posting now. Tiffany will be posting to RigZone and other external sites today as well.

----- Forwarded message -----

From: **Gorchesky, Elise** <elise.gorchesky@bsee.gov>
Date: Mon, Oct 22, 2018 at 3:11 PM
Subject: Re: Industry sites to post position
To: Tiffany Gray <tiffany.gray@bsee.gov>
Cc: Scott Mabry <scott.mabry@bsee.gov>, Eileen Angelico <eileen.angelico@bsee.gov>, Holly Fowler <holly.fowler@bsee.gov>

Hi Tiffany,

Good afternoon. The vacancy announcements have been posted to USAJobs today. We are ready to move forward with the posting to BSEE Social Media pages and in addition, Scott would like to post on the external sites you outlined in your email on Friday afternoon.

Applicants may apply online to the USAJobs vacancy announcement(s) using the links below. The vacancy announcements will close in 10 calendar days on Wednesday, October 31, 2018 at 11:59 PM EST.

BSEE-EEEE-19-EG-

006(DEU): <https://www.usajobs.gov/GetJob/ViewDetails/514573200> (Open to all U.S. citizens)

BSEE-EEEE-19-EG-

007(MP): <https://www.usajobs.gov/GetJob/ViewDetails/514574300> (Status Candidates (Merit Promotion, VEOA, Special Hiring Authorities, ICTAP/CTAP)).

Please let me know if you have any questions or if you require any additional information. Your assistance is greatly appreciated.

Thank you,
Elise

Elise M. Gorchesky

Lead HR Specialist

Hiring Initiatives and DEU Branch
Bureau of Safety and Environmental Enforcement (BSEE)
Office: (703) 787-1481
Fax: (703) 787-1447
Email: Elise.Gorchesky@bsee.gov

On Fri, Oct 19, 2018 at 3:48 PM Gray, Tiffany <tiffany.gray@bsee.gov> wrote:
Quick set of updates re: posting the Supervisory Training Specialist position:

I am happy to make sure that this job is posted on all of our own social media platforms - LinkedIn, Facebook, and Twitter. These are easy and free ways for us to spread the word about the position opening.

[Here is the price list to post a job on Rigzone](#) - https://www.rigzone.com/jobs/recruiter_products.asp . It is \$550 for one "credit" to post a job, and the posting will be active for one month. Is this in the range you were thinking was feasible, Scott?

A few additional options I have looked into:

- Indeed - allows free job posting, which will have the position appear in general search results. Also offers a [pay-per-click option](#) to sponsor a post and have it appear first/higher in the results when applicants search for jobs matching that post. Their description of the benefits and a reasonable budget for sponsoring a post is pretty sparse, but rates for sponsoring are as low as \$5/day.
- ZipRecruiter - connects with 100+ jobs sites across the web and notifies qualified candidates registered with those sites that they could apply. Use of the site is free for 4 days, after which the standard rate of \$249/month applies.
- LinkedIn - in addition to posting on our BSEE LinkedIn page, which would mostly reach our 4,175 followers (and anyone that they share the post with), we could create a paid job posting that would go on the main LinkedIn Jobs site. They also use a [pay-per-click model for pricing](#), in which you set a daily budget and they market the posting in emails and newsfeeds of LinkedIn members who match information in the job description. What, exactly, your budget buys you varies depending on the job title and location, so it's hard to know how much is necessary to spend until you post the job and start seeing some activity in response, which you can do via a manager function. This seems like a fairly labor-intensive way to market a job, so we have to weigh whether we will have the resources to monitor response to the post and adjust the marketing

budget if necessary.

Thanks,

Tiffany Gray

Public Affairs Specialist

Bureau of Safety and Environmental Enforcement

Office: (202) 208 - 4378

Mobile: (202) 803 - 1886

tiffany.gray@bsee.gov



On Fri, Oct 19, 2018 at 9:50 AM Mabry, Scott <scott.mabry@bsee.gov> wrote:
Here is the list as well as the announcement. Elise will give you the link once it is ready.

----- Forwarded message -----

From: **Fowler, Holly** <holly.fowler@bsee.gov>

Date: Fri, Oct 19, 2018 at 9:47 AM

Subject: Industry sites to post position

To: Scott Mabry <scott.mabry@bsee.gov>, Elise Gorchesky
<elise.gorchesky@bsee.gov>

Good morning,

This is what I have found so far. I am off at 1:00 today and Monday and Tuesday so if you need something else please let me know asap! Attached is the write up, you will just need to insert the link once its available.

All of these you need to create an account if there is not already one- My suggestion is someone in HR create accounts so you can use them again to post other positions and have access to your posts and information on the candidates, otherwise all the communications are going to go to me.

Indeed - <https://employers.indeed.com/p/post-job#post-job/create-advertiser>

Monster - https://hiring.monster.com/solutions/pricing.aspx?intcid=PHP_LFT_CTA_PAJ_AI

Society of Petroleum Engineers (SPE) - (I called and emailed and am waiting on a response on how to post job/fees associated)

ASCE- <https://careers.asce.org/employers/>

ASME - <https://jobsearch.asme.org/jobs/user/login?loginType=emp>

API - (I called and emailed and am waiting on a response on how to post job/fees associated)

IADC- (I called and emailed and am waiting on a response on how to post job/fees associated)

AICHE: <https://careerengineer.aiche.org/employer/login/?goto=%2Femployer%2Fpost%2F>

Rigzone- https://www.rigzone.com/jobs/recruiter_products.asp

From: [Scott Angelle](#)
To: [Preston Beard](#)
Cc: Evan@offshoreoperators.com; [Holly Hopkins](#)
Date: Saturday, October 27, 2018 10:49:16 AM

Preston, please contact Evan and holly to advise them of the schedule changes that might allow for the accommodation of their original request to meet in dc in mid November

Please let me know the results of your efforts

Sent from my iPhone

From: [Scott Angelle](#)
To: [Preston Beard](#)
Cc: Evan@offshoreoperators.com; [Holly Hopkins](#)
Subject: Re:
Date: Saturday, October 27, 2018 11:30:22 AM

I assume that was before we knew of the changed schedule. Have you asked if they wish to take advantage of the new opening?

Sent from my iPhone

> On Oct 27, 2018, at 11:27 AM, Preston Beard <preston.beard@bsee.gov> wrote:

>

> Director,

>

> We have slated 11/27 at 11am for the meeting

>

> -Preston

> 571-585-7001

>

>> On Oct 27, 2018, at 10:49 AM, Scott Angelle <scott.angelle@bsee.gov> wrote:

>>

>> Preston, please contact Evan and holly to advise them of the schedule

>> changes that might allow for the accommodation of their original

>> request to meet in dc in mid November

>>

>> Please let me know the results of your efforts

>>

>> Sent from my iPhone

From: [Scott Angelle](#)
To: [Preston Beard](#)
Cc: Evan@offshoreoperators.com; [Holly Hopkins](#)
Subject: Re:
Date: Saturday, October 27, 2018 2:02:42 PM

Isn't that what my original email request you do?

Sent from my iPhone

> On Oct 27, 2018, at 1:13 PM, Preston Beard <preston.beard@bsee.gov> wrote:

>

> I have not. Our November 15-16 slot has opened back up if you would

> prefer that.

>

> -Preston

> 571-585-7001

>

>> On Oct 27, 2018, at 11:30 AM, Scott Angelle <scott.angelle@bsee.gov> wrote:

>>

>> I assume that was before we knew of the changed schedule. Have you

>> asked if they wish to take advantage of the new opening?

>>

>> Sent from my iPhone

>>

>>> On Oct 27, 2018, at 11:27 AM, Preston Beard <preston.beard@bsee.gov> wrote:

>>>

>>> Director,

>>>

>>> We have slated 11/27 at 11am for the meeting

>>>

>>> -Preston

>>> 571-585-7001

>>>

>>>> On Oct 27, 2018, at 10:49 AM, Scott Angelle <scott.angelle@bsee.gov> wrote:

>>>>

>>>> Preston, please contact Evan and holly to advise them of the schedule

>>>> changes that might allow for the accommodation of their original

>>>> request to meet in dc in mid November

>>>>

>>>> Please let me know the results of your efforts

>>>>

>>>> Sent from my iPhone

From: [Holly Hopkins](#)
To: [Scott Angelle](#); [Preston Beard](#)
Cc: Evan@offshoreoperators.com
Subject: [EXTERNAL] Re:
Date: Saturday, October 27, 2018 2:52:06 PM

We could do something between 2 and 5 pm on Nov 15. But we are also fine keeping the Nov 27th time. Let us know. Thanks

----- Original message -----

From: Scott Angelle <scott.angelle@bsee.gov>
Date: 10/27/18 2:02 PM (GMT-05:00)
To: Preston Beard <preston.beard@bsee.gov>
Cc: Evan@offshoreoperators.com, Holly Hopkins <hopkinsh@api.org>
Subject: Re:

Isn't that what my original email request you do?

Sent from my iPhone

> On Oct 27, 2018, at 1:13 PM, Preston Beard <preston.beard@bsee.gov> wrote:
>
> I have not. Our November 15-16 slot has opened back up if you would
> prefer that.
>
> -Preston
> 571-585-7001
>
>> On Oct 27, 2018, at 11:30 AM, Scott Angelle <scott.angelle@bsee.gov> wrote:
>>
>> I assume that was before we knew of the changed schedule. Have you
>> asked if they wish to take advantage of the new opening?
>>
>> Sent from my iPhone
>>
>>> On Oct 27, 2018, at 11:27 AM, Preston Beard <preston.beard@bsee.gov> wrote:
>>>
>>> Director,
>>>
>>> We have slated 11/27 at 11am for the meeting
>>>
>>> -Preston
>>> 571-585-7001
>>>
>>>> On Oct 27, 2018, at 10:49 AM, Scott Angelle <scott.angelle@bsee.gov> wrote:
>>>>
>>>> Preston, please contact Evan and holly to advise them of the schedule
>>>> changes that might allow for the accommodation of their original
>>>> request to meet in dc in mid November
>>>>
>>>> Please let me know the results of your efforts
>>>>

>>>> Sent from my iPhone

From: [Scott Angelle](#)
To: Evan@offshoreoperators.com; [Holly Hopkins](#)
Subject: Fwd: Letter and Attachments for Offshore Overnigheters Proposal
Date: Tuesday, October 30, 2018 9:24:37 PM
Attachments: [ATT00001.htm](#)
[Proposal Final Draft \(2\) \(1\) \(1\).docx](#)
[eRecords Initiative Inspection Hours Comparison Apr-Aug2017-Apr-Aug2018 \(2\) \(1\) \(1\).docx](#)
[ATT00002.htm](#)
[Shallow water letter recipients \(1\) \(1\).pdf](#)
[ATT00003.htm](#)
[Universal Overnight MOA Letter - Mail Merge final \(1\).docx](#)
[ATT00004.htm](#)
[Draft MOA re Inspector Meals and Lodging 10-26 \(v2\) \(1\) \(1\).docx](#)
[ATT00005.htm](#)

Good evening. I'm respectfully requesting your assistance in encouraging your membership to execute and return
Sent from my iPhone

Begin forwarded message:

From: "Beard, Preston" <preston.beard@bsee.gov>
Date: October 27, 2018 at 8:44:34 PM CDT
To: Scott Angelle <scott.angelle@bsee.gov>, Eileen Angelico <eileen.angelico@bsee.gov>
Subject: Letter and Attachments for Offshore Overnigheters Proposal

Attachments:

MOA

eRecords Initiative Inspection Hours Comparison

Letter to operators

List of recipients

White paper on Pilot Program to Include Shallow Water Overnigheters to Inspection Program

--

Preston Beard
Advisor, Office of the Director
Bureau of Safety and Environmental Enforcement
(202) 208-3976 (o)
(571) 585-7001 (c)
preston.beard@bsee.gov



Proposal

Initiate Pilot Program to Include Shallow Water Overnighters to Inspection Program

As part of an effort by BSEE GOMR to improve helicopter efficiency, the Helicopter Cost Reduction Team (HCRT) not only analyzed reductions in aircraft but also looked at changes in work schedules and other initiatives that could increase overall efficiency. One of these was the possibility of conducting overnight inspections on Shallow Water Facilities.

The GOMR has been conducting overnight inspections on Deepwater facilities for nearly 20 years. The amount of overtime that was necessary to accomplish this was always fully justified by the savings in Helicopter flight time.

Per the enclosed white paper on Shallow Water overnighters (**Attachment 1**), it was theorized that BSEE could increase its efficiency in helicopter flight time per shallow water inspection by conducting these inspections through overnight stays on those specific production platforms that can effectively accommodate the inspectors and its mission.

Since April 2018, the New Orleans District Office has conducted a pilot program for shallow water overnighters. The results of the 2 shallow water overnighiter inspections along with comparative numbers from FY 2017 are outlined in the tables below:

Overnighter 1:

Area	Block	Platform	Operator		Number of Structures		
Mobile	823	Multiple	Exxon		5		
Overnighter Inspection							
	Travel Time		Travel Costs	Inspection Time		Overtime Costs	Total Costs
	Flight Time	Boat	(=FT X \$850)	(Man-Hours)	OT Man-Hours	(=OT X \$57)	(=OT + FT)
Day 1	3	1	2550	27	10	570	3120
Day 2	0	1	0	30	30	1710	1710
Day 3	0	1	0	30	10	570	570
Day 4	0	3	0	30	10	570	570
Day 5	3	0	2550	2	0	0	2550
Total	6	6	\$5,100	119	60	\$3,420	\$8,520
Previous Inspection (No Overnighter)							
Travel Time	Travel Time	Travel Costs	Inspection Time	Overtime Costs		Total Costs	
(Air Craft)	(Boat)	(=FT X \$850)	(Man-Hours)	(=OT X \$57)		(=OT + FT)	
18	30 minutes	\$15,300	50	0		\$15,300	

Analysis of Overnighter 1:

By conducting an overnigher, the number of flight days and therefore flight hours for these 5 facilities was reduced from 18 to 6. The cost for each flight hour is estimated at \$850.00/hour.:

$$\text{Flight Cost Savings (\$)} = 4 \text{ flight days} \times 3 \frac{\text{Flight Hours}}{\text{Flight Day}} \times 850 \frac{\text{Dollars}}{\text{Flight Hour}}$$

$$\text{Flight Cost Savings (\$)} = \mathbf{10,200 \text{ Dollars}}$$

$$\text{Overtime Costs (\$)} = 60 \text{ Hours of Overtime} \times 57 \frac{\text{Dollars}}{\text{Overtime Hours}}$$

$$\text{Overtime Costs (\$)} = \mathbf{\$3,420}$$

$$\text{Comparative Cost Difference (\$)} = \$10,200 - \$3,420$$

$$\text{Comparative Cost Difference (\$)} = \mathbf{\$6,780}$$

The cost savings for conducting these inspections as an overnigher was \$6,780.00.

Overnighter 2:

Area	Block	Platform	Operator		Number of Structures		
Mobile	904	Multiple	Cox		10		
Overnighter Inspection							
	Travel Time		Travel Costs	Inspection Time		Overtime Costs	Total Costs
	Flight Time	Boat	(=FT X \$850)	(Man-Hours)	OT Man-Hours	(=OT X \$57)	(=OT + FT)
Day 1	3	0	2550	27	10	570	3120
Day 2	0	9	0	30	30	1710	1710
Day 3	0	4	0	30	10	570	570
Day 4	0	0	0	30	10	570	570
Day 5	3	0	2550	2	0	0	2550
Total	6	0	\$5,100	119	60	\$3,420	\$8,520
Previous Inspection (No Overnighter)							
Travel Time	Travel Time	Travel Costs	Inspection Time	Overtime Costs		Total Costs	
(Air Craft)	(Boat)	(=FT X \$850)	(Man-Hours)	(=OT X \$57)		(=OT + FT)	
27	2 Hrs	\$22,950	112	0		\$22,950	

Analysis of Overnighter 2:

By conducting an overnighter, the number of flight days and therefore flight hours for these 10 facilities was reduced from 27 to 6. The cost for each flight hour is estimated at \$850.00/hour:

$$\text{Flight Cost Savings (\$)} = 27 \text{ Flight Hours} \times 850 \frac{\text{Dollars}}{\text{Flight Hour}}$$

$$\text{Flight Cost Savings (\$)} = 17,850 \text{ Dollars}$$

$$\text{Overtime Costs (\$)} = 60 \text{ Hours of Overtime} \times 57 \frac{\text{Dollars}}{\text{Overtime Hours}}$$

$$\text{Overtime Costs (\$)} = \$3,420$$

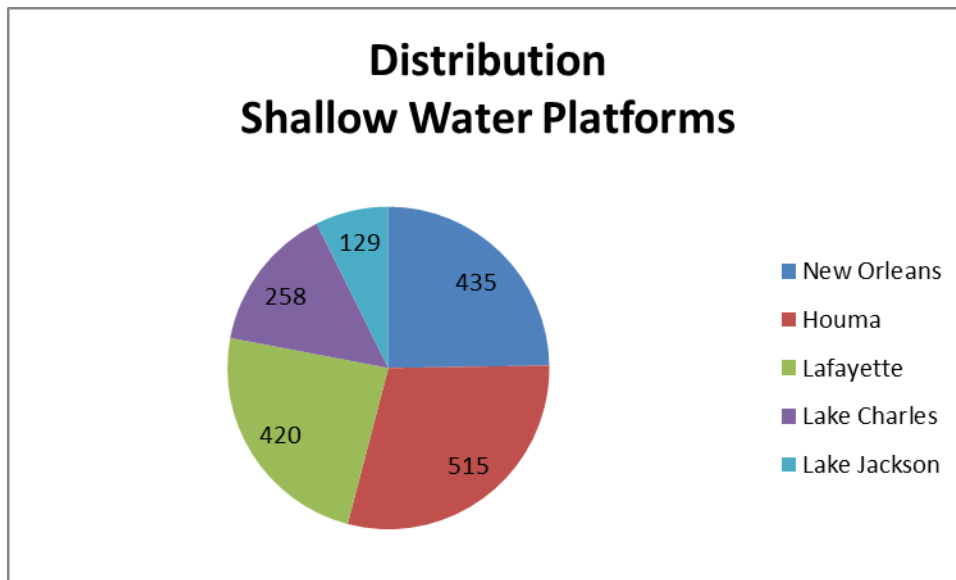
$$\text{Comparative Cost Difference (\$)} = \$10,200 - \$3,420$$

$$\text{Comparative Cost Difference (\$)} = \$14,430$$

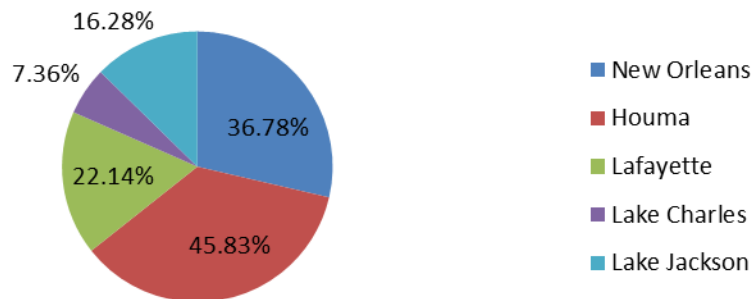
The cost savings for conducting these inspections as an overnighter was \$14,430.00.

Conclusion:

The shallow water overnighters represent an increased efficiency in both helicopter utilization per inspection and inspector man-days per inspection.



Percentage of those Shallow Water Platforms that can Accomodate Overnighter



Proposal:

Allow the GOMR to conduct overnighter inspections on those shallow water production platforms that can accommodate our inspection team (**see Attachment 2**). This will be done on a voluntary basis and conditioned upon additional overtime funding. To fully fund the overtime needs for the complete list of shallow water production platforms, it is estimated that an additional \$150,000 to \$200,000 would be necessary. This pilot would be incorporated into the FY 2019 inspection schedule. Once the pilot has concluded, GOMR senior level management will assess the pilot through an elementary cost benefit analysis to determine the continuation of the Shallow Water Overnighter inspection program.

eRecords Initiative Inspection Hours Comparison

April-August 2017 vs April-August 2018

Prepared by Greg Schneider

9/20/2018

	1	2	3	4	5	6	7			8	9		10		11	12	13
	Number of Active Inspections	Number of Activity Days	Number of Flight Days	Total Office Time	Total Onsite Time	Total Time	Inspection Time			Office Records Review (eRecords)	Paperwork Time		Travel Time	Waiting Time			
							On-site Physical Inspection Time	On-site Records Review	Records Review (eRecords)		On-site Paperwork (Data Retrieval / Data Entry)	Office Paperwork (Data Retrieval / Data Entry)					
All BSEE Regions/Districts																	
FY2017 (April thru August)	2019	4368	3100	2106.4	32885.5	34991.9	13416.05	2205.05	975.4	7378.7	1131	8865.2	1020.5				
Avg Activity Days per Inspection	N/A	2.16	N/A	N/A	100.0%	N/A	40.8%	6.7%	N/A	22.4%	N/A	27.0%	3.1%	% of Onsite Time			
Avg Fly Days per Activity Day	N/A	N/A	0.71	100.0%	N/A	N/A	N/A	N/A	46.3%	N/A	53.7%	N/A	N/A	% of Office Time			
Avg Fly Days per Inspection	N/A	N/A	1.54	6.0%	94.0%	100.0%	38.3%	6.3%	2.8%	21.1%	3.2%	25.3%	2.9%	% of Total Time			
vs FY2018 (April thru August)	2170	5156	3216	4341.2	31667.8	36009	13921.8	4487.1	2355	3758.1	1986.2	8391.5	1109.3				
Avg Activity Days per Inspection	N/A	2.38	N/A	N/A	100.0%	N/A	44.0%	14.2%	N/A	11.9%	N/A	26.5%	3.5%	% of Onsite Time			
Avg Fly Days per Activity Day	N/A	N/A	0.62	100.0%	N/A	N/A	N/A	N/A	54.2%	N/A	45.8%	N/A	N/A	% of Office Time			
Avg Fly Days per Inspection	N/A	N/A	1.48	12.1%	87.9%	100.0%	38.7%	12.5%	6.5%	10.4%	5.5%	23.3%	3.1%	% of Total Time			
Increase/Decrease Comparison	151	788	116	2234.8	2443.95	4678.75	505.75	2282.05	1379.6	-3620.6	855.2	-473.7	88.8				
Avg Activity Days per Inspection	N/A	9.83%	N/A	N/A	0.0%	N/A	7.8%	111.3%	N/A	-47.1%	N/A	-1.7%	12.9%	% of Onsite Time			
Avg Fly Days per Activity Day	N/A	N/A	-12.11%	0.0%	N/A	N/A	N/A	N/A	17.1%	N/A	-14.8%	N/A	N/A	% of Office Time			
Avg Fly Days per Inspection	N/A	N/A	-3.48%	100.3%	-6.4%	0.0%	0.8%	97.7%	134.6%	-50.5%	70.7%	-8.0%	5.6%	% of Total Time			

1

The total number of inspections that occurred during this month. This is the highest level of an inspection, which may include multiple inspection types or take multiple days/flights to complete

2

Per inspection, the count of unique days performing activities related to the inspection. (Sum of the sum of all unique activity days per inspection)

3

Per inspection and unique activity day, the total number of days reported as flying to 'On-site' location. (Sum of the sum of all unique activity days which required flying to do physical inspections)

4

The total number of Office hours an inspector conducted during an inspection

5

The total number of On-Site hours an inspector conducted during an inspection

6

The total number of hours recorded during all inspections (includes all Office and On-Site hours)

7

The amount of time (hrs) a physical inspection, or witnessing, was performed during an inspection while on-site.

8

The amount of time (hrs) related to an inspection, while on-site, which an inspector reviewed records (ex. Operator test and maintenance records)

9

The amount of time (hrs) related to an inspection, while in the office, which an inspector reviewed electronically accessible documents or stored records (ex. eRecords, SMART, Emails, Permits - eWell / FSS)

10

The amount of time (hrs) related to an inspection, while on-site, which an inspector collected (not reviewed) operator documentation, performed data entry, or issued INCs

11

The amount of time (hrs) related to an inspection, while in the office, which an inspector prepared information, collected (not reviewed) documentation, performed data entry, or issued INCs

12

The amount of time (hrs) related to traveling to/from an offshore site, marine vessel travel during inspection, or gov't vehicle travel to land based site for review of inspection documents and records

13

The amount of time (hrs) related to waiting during an inspection (weather delays, mechanic delays, operator gathering test equipment/personnel)

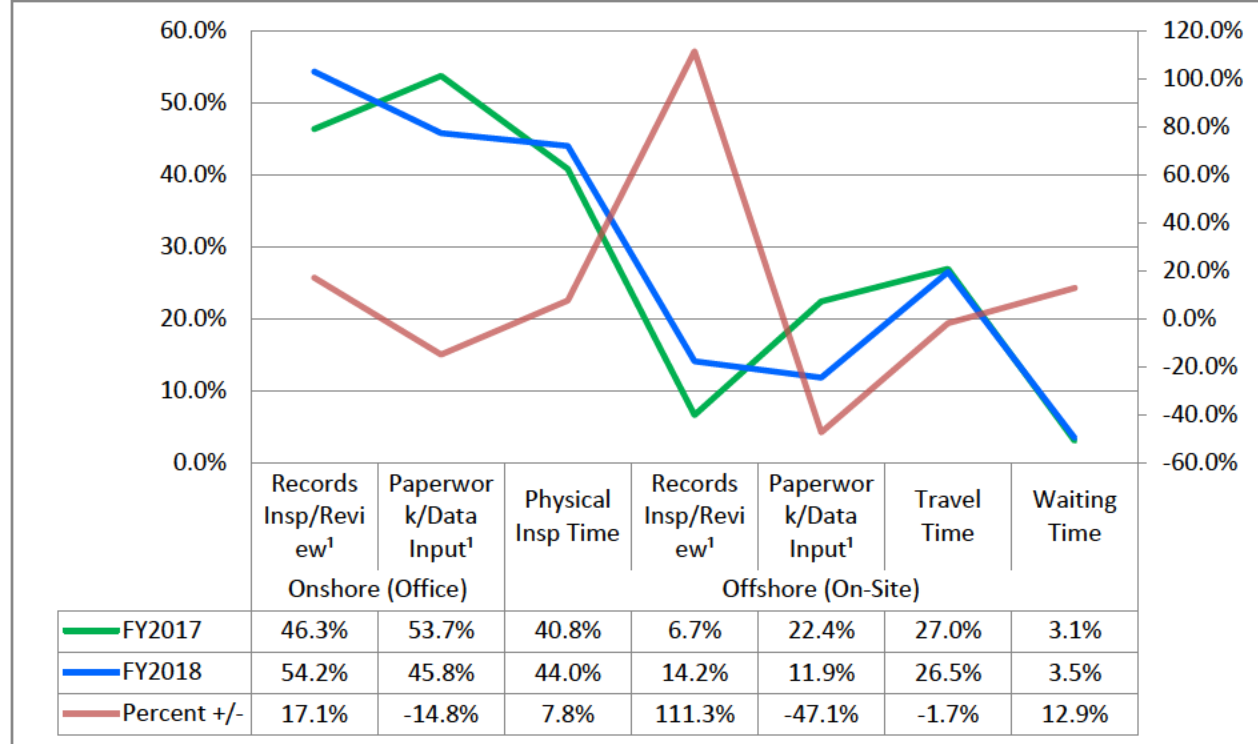
Post-June 2018 Logic

<u>Inspection Activities</u>	<u>FY2017</u>	<u>% Ttls</u>	<u>FY2018</u>	<u>% Ttls</u>	<u>Difference</u>	<u>Diff +/-</u>	<u>Percent +/-</u>
Total Time	34991.9	100%	36009	100%	1017.1	2.9%	0%
Onshore Time	2106.4	6.0%	4341.2	12.1%	2234.8	106.1%	100.3%
Records Insp/Review ¹	975.4	46.3%	2355	54.2%	1379.6	141.4%	17.1%
Paperwork/Data Input ¹	1131	53.7%	1986.2	45.8%	855.2	75.6%	-14.8%
Offshore Time	32885.5	94.0%	31667.8	87.9%	-1217.7	-3.7%	-6.4%
Physical Insp Time	13416.05	40.8%	13921.8	44.0%	505.75	3.8%	7.8%
Records Insp/Review ¹	2205.05	6.7%	4487.1	14.2%	2282.05	103.5%	111.3%
Paperwork/Data Input ¹	7378.7	22.4%	3758.1	11.9%	-3620.6	-49.1%	-47.1%
Travel Time	8865.2	27.0%	8391.5	26.5%	-473.7	-5.3%	-1.7%
Waiting Time	1020.5	3.1%	1109.3	3.5%	88.8	8.7%	12.9%

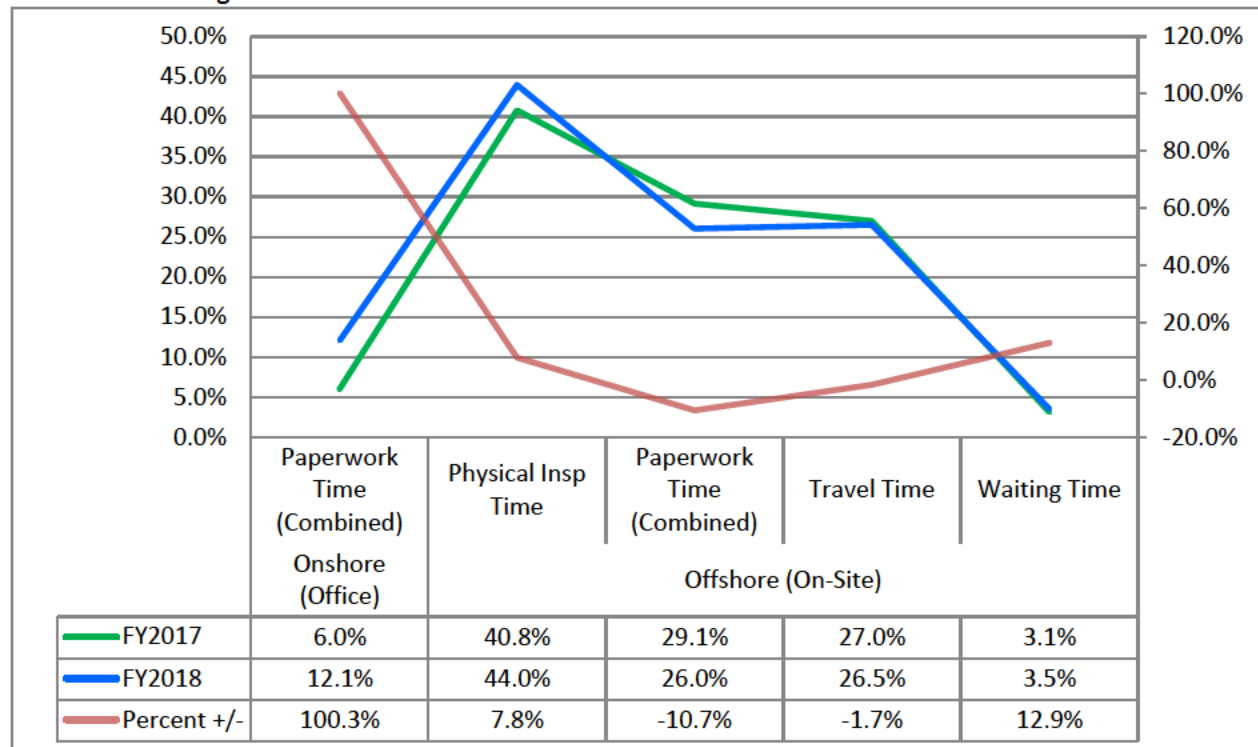
Pre-June 2018 Logic

<u>Inspection Activities</u>	<u>FY2017</u>	<u>% Ttls</u>	<u>FY2018</u>	<u>% Ttls</u>	<u>Difference</u>	<u>Diff +/-</u>	<u>Percent +/-</u>
Total Time	34991.9	100%	36009	100%	1017.1	2.9%	0%
Onshore Time	2106.4	6.0%	4341.2	12.1%	2234.8	106.1%	100.3%
Paperwork Time (Combined)	2106.4	100%	4341.2	100%	2234.8	106.1%	0%
Offshore Time	32885.5	94.0%	31667.8	87.9%	-1217.7	-3.7%	-6.4%
Physical Insp Time	13416.05	40.8%	13921.8	44.0%	505.75	3.8%	7.8%
Paperwork Time (Combined)	9583.75	29.1%	8245.2	26.0%	-1338.55	-14.0%	-10.7%
Travel Time	8865.2	27.0%	8391.5	26.5%	-473.7	-5.3%	-1.7%
Waiting Time	1020.5	3.1%	1109.3	3.5%	88.8	8.7%	12.9%

Post-June 2018 Logic:



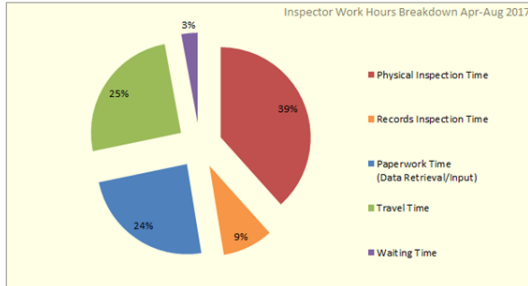
Pre-June 2018 Logic:



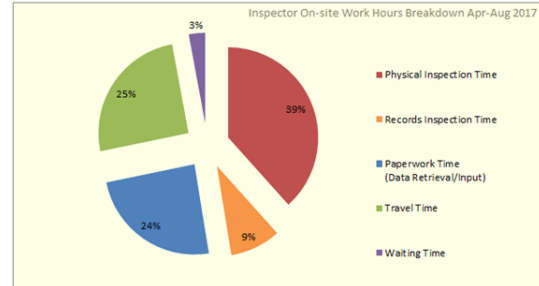
Total Hours vs On-site Hours

Bureau of Safety and Environmental Enforcement

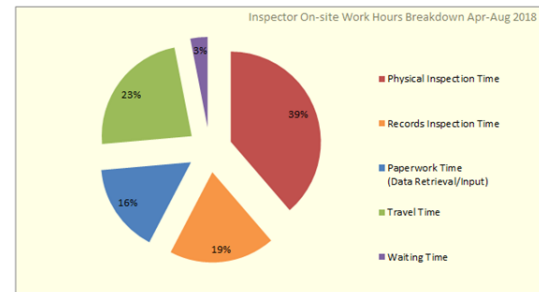
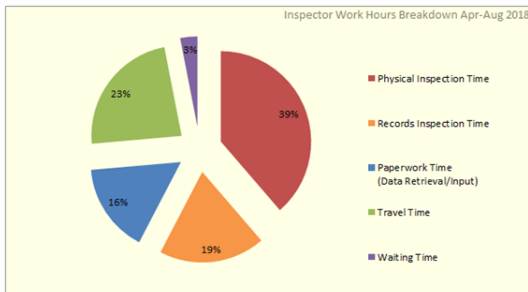
Total Inspection Hours



Offshore Inspection Hours Only

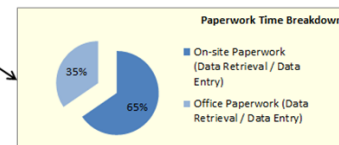
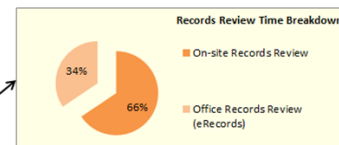
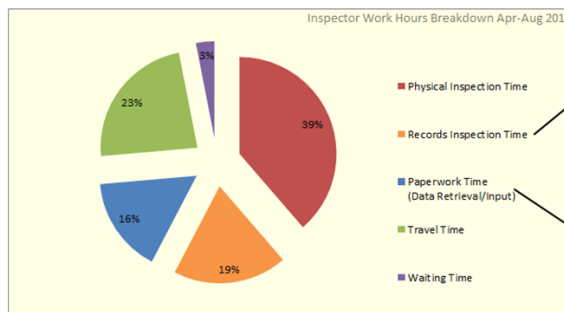
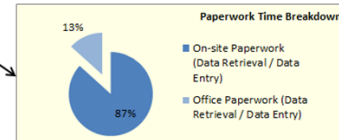
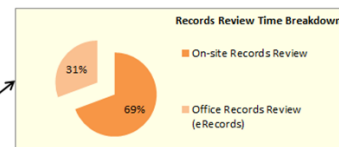
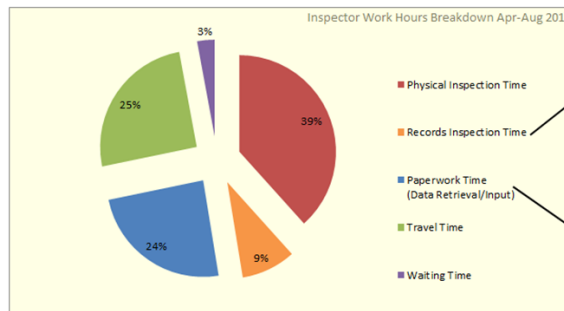


VS



Total Inspection Hours Breakdown

Bureau of Safety and Environmental Enforcement



Jaegu Nam
ANKOR Energy LLC
1615 Poydras Street, Suite 1100,
New Orleans, LA 70112

Michael Minarovic
Arena Offshore, LP
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The Woodlands, TX 77381

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Covington, LA, 70433

Craig Sanders
Cox Operating, L.L.C.
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Randy Cleveland
Exxon Mobil Corporation
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Spring, TX 77389

Matt McCarroll
Fieldwood Energy LLC
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Houston, TX 77042

Richard C. Adkerson
Freeport-McMoRan Oil & Gas LLC
333 N. Central Ave.
Phoenix, AZ 85004

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Houston, TX 77002

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Houston, TX 77024

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Talos Energy Offshore LLC
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Houston, TX 77002-4727

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W & T Offshore, Inc.
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Houston, TX 77046

Ron Wilson
Walter Oil & Gas Corporation
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Houston, TX 77002

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Anadarko Petroleum Corporation
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The Woodlands, TX 77380

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1500 Post Oak Boulevard
Houston, TX 77056

Starlee Sykes
BP Exploration & Production Inc.
501 Westlake Park Boulevard
Houston, TX 77079

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Houston, TX 77002

Ryan Lance
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Houston, TX 77252-2197

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Eldar Sætre
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Hess Tower
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Ashu Vashisht
MC Offshore Petroleum, LLC
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Sugar Land, TX 77478

Roger Jenkins
Murphy Exploration & Production Company - USA
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Houston, TX 77024

David L. Stover
Noble Energy, Inc.
1001 Noble Energy Way
Houston, TX 77070

João Carlos Araújo Figueira
Petrobras America Inc.
10350 Richmond Avenue, Suite 1400
Houston, TX 77042

Richard Tallant
Shell Offshore Inc.
701 Poydras Street
One Shell Square
New Orleans, LA 70139

Greg Miller
Whistler Energy II, LLC
717 Texas Avenue, Suite 3000
Houston, TX 77002



United States Department of the Interior
BUREAU OF SAFETY AND ENVIRONMENTAL ENFORCEMENT
WASHINGTON, DC 20240-0001

October 26, 2018

Jaegu Nam
ANKOR Energy LLC
1615 Poydras Street, Suite 1100,
New Orleans, LA 70112

Dear Mr. Nam:

The purpose of this correspondence is to update you on the significant progress we have made regarding efficiencies in the logistics for offshore inspections and to request your assistance in establishing a process for invoicing the government for the lodging and food services you provide to our inspectors during overnight inspections.

Within the last several months, we have been able to accomplish an evolution of our records inspection process by gaining access to your electronic records through an E-Records initiative. Your cooperation with this initiative, combined with adjustments to our inspector work schedules, will result in an estimated \$18.5 million of savings in helicopter costs for the Bureau of Safety and Environmental Enforcement (BSEE) over the next five years. Of importance and worth noting is the observation that, at the same time we were able to achieve these savings, we were able to increase physical inspection time by 7.6% for the period April-September 2018 when compared to the same period in 2017, as reflected in the attached spreadsheet. While it is often difficult to cut costs and improve performance, this data shows it is certainly possible.

In a continued effort to achieve efficiencies, I have directed our staff to perform an analysis as to whether we could extend the practice of overnighting our inspectors to shallow water inspections, as we have historically done for deepwater inspections. I am enclosing a copy of that analysis, which indicates a promising opportunity to save an additional \$5 million over the next ten years by reducing flight times. You will note within the attached we conducted a pilot inspection and, when compared to the exact facility inspection a year ago, we were able to reduce flight days from 25 flight days to 4 flight days, an 84% decrease. In order to accomplish this in compliance with government ethics responsibilities, however, BSEE must develop an efficient and reliable mechanism for reimbursing operators for the meals and lodging provided during such overnight stays. Longstanding BSEE regulations establish that you must provide food and lodging to BSEE inspectors upon request, and that BSEE will reimburse you for such food and lodging upon your request. See 30 C.F.R. 250.133, 282.27(d)(2). No doubt, such a program requires BSEE to incur some overtime costs and inspector lodging and food cost, however the net savings are worth expanding this pilot.

I am enclosing a Memorandum of Agreement (MOA) for your consideration, the purpose of which is to establish a process to manage the invoicing and reimbursement of the costs for inspector lodging and food in accordance with BSEE authorities. A summary of the responsibilities of each party is detailed below.

BSEE will:

- Continue to coordinate with operators on lodging and meal needs
- Maintain daily records of lodging and meals furnished by operators
- Submit on a quarterly basis to operators an Activity Report summarizing the previous quarter's lodging and meals activity
- Process invoices submitted by operators in accordance with laws, regulations, and procedures

Operators will:

- Continue to cooperate with BSEE on meeting lodging and meal needs
- Receive and review quarterly Activity Reports provided by BSEE
- Using BSEE quarterly Activity Reports, prepare a quarterly invoice for timely submission to BSEE
- Register as a vendor to the Federal Government to facilitate reimbursement payments

Furthermore, it is important BSEE establish this formal process with the owners of deepwater facilities we have historically utilized, thus the enclosed MOA is applicable to both shallow water and deepwater providers of lodging and food services to BSEE inspectors.

I am looking forward to receiving your executed MOA.

Please return to:

Preston Beard, Advisor to the BSEE Director
1849 C Street NW Mail Stop 5412
Washington DC 20240

Should you have any questions, please do not hesitate to contact me. Your cooperation in these efforts will assist BSEE in achieving the most efficient and effective inspection program for the American people.

Sincerely,

Scott Angelle
Director

Attachments:

- 1) Helicopter spreadsheet
- 2) Shallow water overnigher analysis
- 3) Memorandum of Agreement

Memorandum of Agreement

The United States Department of the Interior, through the Bureau of Safety and Environmental Enforcement (BSEE), and _____ (Operator) (together, Participants) enter into this Memorandum of Agreement (MOA) in order to establish certain understandings and procedures related to reimbursements for BSEE inspector meals and lodging.

Background

In order to fulfill its statutory obligations and mission to promote safety and environmental protection in the context of outer Continental Shelf (OCS) activities, BSEE must conduct periodic on-site inspections of Operator's OCS facilities. Considerations of inspector safety, operational efficiency, and appropriate allocation of taxpayer resources at times require inspectors to stay overnight on Operator's facilities and to consume meals provided by Operator in connection with such stays. BSEE regulations require that Operator provide such meals and lodging upon request, and provide for Operator to request reimbursement. Because Operator's provision of meals and lodging constitutes a benefit to BSEE, government ethics standards create the need to establish a framework for reimbursement. This MOA establishes a vehicle for Operator to request and receive reimbursement for meals and lodging it provides in accordance with BSEE regulations.

Authority

BSEE enters into this agreement under the authority of the Outer Continental Shelf Lands Act, 43 U.S.C. §§ 1331, *et seq.* (including §§ 1334, 1348), 30 CFR Chapter II (including §§ 250.130-250.133, 282.27(d)(2)), Federal Employee Travel, Transportation, and Subsistence legislation (including 5 U.S.C. § 5702), and Federal Travel Regulation System Regulations (including 41 CFR § 301-11.1).

Terms

BSEE and Operator hereby agree to the following terms for providing reimbursement:

1. BSEE and Operator will continue to coordinate and cooperate on inspector lodging and meal needs.
2. On a quarterly basis, BSEE will prepare and provide to Operator a summary report identifying the number of overnight stays by BSEE inspectors on Operator's OCS facilities during the previous calendar quarter, as well as the number of meals consumed, by category, in connection with such overnight stays.
3. Following receipt of BSEE's report, Operator will issue an invoice to BSEE for the meals and lodging identified in the BSEE report. Invoices shall be sent to:

Bureau of Safety and Environmental Enforcement
45600 Woodland Road
Finance VAE-FD
Sterling, VA 20166

Prior to payment being made, Operator will need submit the attached OMB No. 1510-0056 *ACH VENDOR/MISCELLANEOUS PAYMENT ENROLLMENT FORM*, to the above address. This form may be submitted with the first request for payment, and does not need to be submitted for subsequent payment requests unless vendor or banking information changes.

4. Operator will invoice BSEE \$94 for each night of lodging. Operator will invoice BSEE for meals provided during the inspector's stay as follows: \$13 for each breakfast; \$14 for each lunch; and \$23 for each dinner. These rates reflect the current reimbursement rates

established by federal law for lodging and meals for federal employees in travel status for the selected geographic area; they are subject to adjustment at any time without advance notice in order to remain consistent with changes to the applicable rates under the law. Operator agrees that these amounts represent a valid and reasonable approximation of its actual costs for providing these services.

5. Following receipt of an invoice that aligns with BSEE's report and the terms of this MOA, BSEE will issue payment to Operator.

Contacts

As noted above, invoices should be provided to BSEE at:

Bureau of Safety and Environmental Enforcement
45600 Woodland Road
Finance VAE-FD
Sterling, VA 20166

Reports and payments should be provided to Operator at:

General Provisions

Nothing in this MOA alters, amends, or affects in any way the statutory or regulatory authority of BSEE. As required by the Anti-deficiency Act, 31 U.S.C. §§ 1341 and 1342, all commitments made by BSEE in this MOA are subject to the availability of appropriated funds and budget priorities. Nothing in this MOA, in and of itself, obligates BSEE to expend appropriations, to enter into any contract, or to incur financial obligations. Any transaction involving the transfer of funds between Participants will be handled in accordance with applicable laws, regulations, and procedures.

This MOA is not intended to, nor does it, create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity by any person or party against the United States, its agencies, its officers, or any other person. This MOA neither expands nor is in derogation of those powers and authorities vested in BSEE by applicable law. Nothing in this MOA is intended to conflict with current law or regulation or the directives of BSEE. If a term of this MOA is inconsistent with such authority, that term is invalid, but the remaining terms and conditions of this MOA will remain in full force and effect.

Term and Termination

This MOA will become effective upon the date of the last Participant's signature below and will continue until canceled or superseded. Amendments to this MOA may be made by the mutual, written consent of authorized representatives of each of the Participants. Any Participant may terminate this MOA, in whole or in part, at any time by providing the other Participant 30-days written notice to that effect.

Mr. Scott Angelle
Director
Bureau of Safety Environmental Enforcement

[Operator Signatory- print name, title, date]

U.S. Department of the Interior

**ACH VENDOR/MISCELLANEOUS
PAYMENT
ENROLLMENT FORM**

OMB No. 1510-0056

This form is used for Automated Clearing House (ACH) payments with a record that contains payment-related information processed through the Vendor Express Program.

PRIVACY ACT STATEMENT

The following information is provided to comply with the Privacy Act of 1974 (P.L.93-579). All information collected on this form is required under the provisions of 31 U.S.C. 332 and 31 CFR 210. This information will be used by the Treasury Department to transmit payment data, by electronic means to vendor's financial institution. Failure to provide the requested information may delay or prevent the receipt of payments through the Automated Clearing House Payment System

AGENCY INFORMATION

FEDERAL PROGRAM AGENCY:

U.S. Department of the Interior / Bureau of Safety and Environmental Enforcement

AGENCY IDENTIFIER:

AGENCY LOCATION CODE: (ALC)

14220000

ARCH FORMAT:

☐ CCD+ ☐ CTX ☐ CTP

ADDRESS

45600 Woodland Road - VAE-FD

Sterling, VA 20166

CONTACT PERSON NAME:

Phuong Nguyen

TELEPHONE NUMBER:

703-787-1385

ADDITIONAL INFORMATION:

E-mail PHUONG.NGUYEN@BSEE.GOV

PAYEE/COMPANY INFORMATION

NAME:

SSN NO. OR TAXPAYER ID NO.:

ADDRESS

DUNS (D&B) NO:

CONTACT PERSON: (NAME, TITLE)

TELEPHONE NUMBER:

FINANCIAL INSTITUTION INFORMATION

NAME:

ADDRESS:

ACH COORDINATOR NAME:

TELEPHONE NUMBER:

NINE DIDGET ROUTING TRANSIT NUMBER:

DEPOSITOR ACCOUNT TITLE:

DEPOSITOR ACCOUNT NUMBER:

TYPE OF ACCOUNT:

☐ CHECKING ☐ SAVINGS

SIGNATURE AND TITLE OF AUTHORIZED OFFICIAL:

TELEPHONE NUMBER:

From: [Scott Angelle](#)
To: [Evan Zimmerman](#)
Cc: [Evan@offshoreoperators.com](#); [Holly Hopkins](#)
Subject: Re: [EXTERNAL] Re: Letter and Attachments for Offshore Overnights Proposal
Date: Tuesday, October 30, 2018 9:59:44 PM

Just to be clear the letter went to deepwater operators as well in an effort to get documentation in order

Sent from my iPhone

On Oct 30, 2018, at 8:47 PM, Evan Zimmerman <evan@zimmerman-co.com> wrote:

OOC staff including myself, will reach out to these shelf operators and encourage participation in this Government cost savings proposal.

Cheers,

Evan H. Zimmerman
Executive Director
Offshore Operators Committee
Evan@offshoreoperators.com

On Oct 30, 2018, at 8:24 PM, Scott Angelle <scott.angelle@bsee.gov> wrote:

Good evening. I'm respectfully respecting your assistance in encouraging your membership to execute and return
Sent from my iPhone

Begin forwarded message:

From: "Beard, Preston" <preston.beard@bsee.gov>
Date: October 27, 2018 at 8:44:34 PM CDT
To: Scott Angelle <scott.angelle@bsee.gov>, Eileen Angelico <eileen.angelico@bsee.gov>
Subject: Letter and Attachments for Offshore Overnights Proposal

Attachments:
MOA
eRecords Initiative Inspection Hours Comparison
Letter to operators
List of recipients
White paper on Pilot Program to Include Shallow Water Overnights to Inspection Program

--

Preston Beard
Advisor, Office of the Director
Bureau of Safety and Environmental Enforcement
(202) 208-3976 (o)
(571) 585-7001 (c)
preston.beard@bsee.gov



<ATT00001>

<Proposal Final Draft (2) (1) (1).docx>

<eRecords_Initiative_Inspection_Hours_Comparison_Apr-Aug2017-
Apr-Aug2018 (2) (1) (1).docx>

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<Shallow water letter recipients (1) (1).pdf>

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<Universal Overnight MOA Letter - Mail Merge final (1).docx>

<ATT00004>

<Draft MOA re Inspector Meals and Lodging 10-26 (v2) (1)
(1).docx>

<ATT00005>

From: [Holly Hopkins](#)
To: [Evan Zimmerman](#); [Scott Angelle](#)
Cc: [Evan@offshoreoperators.com](#)
Subject: Re: [EXTERNAL] Re: Letter and Attachments for Offshore Overnights Proposal
Date: Wednesday, October 31, 2018 12:04:22 AM

Ok thanks

----- Original message -----

From: Evan Zimmerman <evan@zimmerman-co.com>
Date: 10/30/18 10:48 PM (GMT-05:00)
To: Scott Angelle <scott.angelle@bsee.gov>
Cc: Evan@offshoreoperators.com, Holly Hopkins <hopkinsh@api.org>
Subject: Re: [EXTERNAL] Re: Letter and Attachments for Offshore Overnights Proposal

Got it. We will
Mirror the list you sent with our membership.

Cheers,

Evan H. Zimmerman
Executive Director
Offshore Operators Committee
Evan@offshoreoperators.com

On Oct 30, 2018, at 8:59 PM, Scott Angelle <scott.angelle@bsee.gov> wrote:

Just to be clear the letter went to deepwater operators as well in an effort to get documentation in order

Sent from my iPhone

On Oct 30, 2018, at 8:47 PM, Evan Zimmerman <evan@zimmerman-co.com> wrote:

OOC staff including myself, will reach out to these shelf operators and encourage participation in this Government cost savings proposal.

Cheers,

Evan H. Zimmerman
Executive Director
Offshore Operators Committee
Evan@offshoreoperators.com

On Oct 30, 2018, at 8:24 PM, Scott Angelle
<scott.angelle@bsee.gov> wrote:

Good evening. I'm respectfully respecting your assistance in encouraging your membership to execute and return
Sent from my iPhone

Begin forwarded message:

From: "Beard, Preston"
<preston.beard@bsee.gov>
Date: October 27, 2018 at 8:44:34 PM CDT
To: Scott Angelle
<scott.angelle@bsee.gov>, Eileen Angelico
<eileen.angelico@bsee.gov>
Subject: Letter and Attachments for Offshore Overnighers Proposal

Attachments:
MOA
eRecords Initiative Inspection Hours
Comparison
Letter to operators
List of recipients
White paper on Pilot Program to Include
Shallow Water Overnighers to Inspection
Program

--

Preston Beard
Advisor, Office of the Director
Bureau of Safety and Environmental
Enforcement
(202) 208-3976 (o)
(571) 585-7001 (c)
preston.beard@bsee.gov



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<Draft MOA re Inspector Meals and Lodging 10-26 (v2)
(1) (1).docx>

<ATT00005>

From: [Holly Hopkins](#)
To: [Doug Morris \(douglas.morris@bsee.gov\)](#)
Cc: [Candi Hudson](#); [Lars Herbst \(lars.herbst@bsee.gov\)](#); [scott.angelle@bsee.gov](#)
Subject: API 3Q 2018 Report to BSEE on subsea bolts & fasteners
Date: Friday, November 2, 2018 12:03:58 PM
Attachments: [API 3Q Bolt Letter to BSEE.pdf](#)

Doug,

Attached please find the API 3Q 2018 Report to BSEE on subsea bolts and fasteners. This is a detailed and comprehensive update to track the progress of implementation of the voluntary industry actions to address the issues related to subsea bolts and fasteners. We look forward to discussing those details and the report on November 6. If you have any questions, please contact me.

Thanks,

Holly A. Hopkins
Sr. Policy Advisor, Upstream
American Petroleum Institute
1220 L Street, NW
Washington, DC 20005
202-682-8439 Tel
hopkinsh@api.org



This transmission contains information that is privileged and confidential and is intended solely for use of the individual(s) listed above. If you received the communication in error, please notify me immediately. Any dissemination or copying of this communication by anyone other than the individual(s) listed above is prohibited.



Holly A. Hopkins
Senior Policy Advisor

1220 L Street, NW
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USA
Phone: 202-682-8439
Fax: 202-682-8426

Email hopkinsh@api.org
www.api.org

November 2, 2018

Doug Morris
Chief Office of Offshore Regulatory Programs
Bureau of Safety and Environmental Enforcement
U.S. Department of the Interior
1849 C Street, NW
Washington, DC 20240

Via email

Dear Mr. Morris:


As part of API and Industry's commitment to improving training, operating procedures, technology and industry standards, attached is a detailed and comprehensive update showing progress of the voluntary actions taken by Industry to address issues related to subsea bolts and fasteners. As we have discussed, this is ongoing work and progress will be reported as new information becomes available. Notably we have made progress on the near-term commitment, which entails replacing all critical bolting having a hardness greater than 35HRC. One hundred percent of our BOPs have the required replacement bolting ordered and 94% have completed the replacement for all active BOPs in the Gulf of Mexico. The attached documents show progress made by Industry on the following bolting topics:

- Research sponsored by API related to this topic;
- Activity by the standards task groups and subcommittees to implement the recommendations in the API Multi Segment Task Group Report on Bolting Failures;
- Voluntary industry adoption of API 20 E/F for critical BOP bolting;
- Voluntary industry replacement of critical bolting having a hardness of >35 HRC;
- Enhanced QAQC of 3rd party manufactured bolting (i.e., sampling, 20 E/F requirements);
- Updated make-up procedures, with additional engineering rigor and oversight;
- Elimination of electroplated Zinc coatings for subsea/marine applications; and
- Enhanced failure reporting with wider distribution.

API appreciates the opportunity to work with BSEE to continue discussing our shared objective of safe operations. As can be seen by the significant progress we've made as an Industry since 2016, we believe that by working in a spirit of cooperation, we can better understand how to best achieve our common goals and, thus, implement actions to help reach our shared safety objectives. We look forward to

discussing this report in detail during our November 6, 2018, webex. If you have any questions in the meantime, please contact me by phone at (202)682-8439, or by e-mail at hopkinsh@api.org.

Sincerely,

A handwritten signature in blue ink that reads "Holly A. Hopkins". The signature is fluid and cursive, with the first name "Holly" being the most prominent.

Holly A. Hopkins

cc: Lars Herbst, GOM Regional Director

Attachment



AMERICAN PETROLEUM INSTITUTE

November 2018

API 3Q 2018 UPDATE ON INDUSTRY ACTIVITIES ON SUBSEA BOLTS AND CONNECTORS

Background

On August 11, 2014 the Bureau of Safety and Environmental Enforcement (BSEE) released a technical Review of Connector and Bolt Failures following the failure of connectors and bolts used in critical equipment. The technical review, entitled Evaluation of Connector and Bolt Failures, was completed by the bureau's Quality Control-Failure Incident Team (QC-FIT) and submitted to BSEE Director Brian Salerno. The objective of the technical assessment was to document and evaluate failures of the connectors, studs and other components used in critical equipment and determine if there were industry wide issues that need to be addressed by the industry or BSEE. This report addressed a December 2012 incident which prompted a global recall of the bolts associated with the H4 connector bolts.

In response to the QC-Fit Report, API held a Technical Session during the API Exploration and Production Winter Standards Meeting in New Orleans on January 27, 2015. BSEE was invited by API to present their report findings and recommendations. After the Technical Session, an API multi-segment task group was formed to review the detailed recommendations in the report and determine next steps. The final report of the task group was shared with BSEE in March of 2016 and is now being implemented.

An incident in February of 2014 involving a lower marine riser package (LMRP) connector leak prompted BSEE to issue an Addendum to the QC-FIT report, with the new information from this incident.

As a result of these ongoing incidents BSEE issued a Safety Alert regarding Connector and Bolt Failures on February 2, 2016. Additionally, BSEE held a public forum on offshore connector equipment failures, including connector bolt failures that have occurred on the OCS, on August 29, 2016, in Washington, DC.

To address the February 2016 safety alert API formed a workgroup which has met with BSEE numerous times to improve safety offshore as it relates to bolts. This work focuses on subsea BOP bolting and 4 specific areas: 1) Materials/Standards; 2) QA/QC – API Monogram Program; 3) Operations; and 4) Research.

API provides this detailed and comprehensive update to track the progress and implementation of the voluntary industry actions to address the issues related to subsea bolts and connectors. This is ongoing work that may evolve as new information becomes available and this is the ninth of regular quarterly reports.

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
1	Research	API sponsored research	<p>API has approved a 2017 project to perform testing to determine susceptibility to environmental hydrogen embrittlement of selected materials and coatings. Testing has begun on API 20E bolting material for susceptibility to hydrogen embrittlement under cathodic protection in simulated seawater. Specimen preparation for the first sample group is complete for the testing of zinc and alternatives to zinc electroplating coatings. Testing is expected to begin by year end and be completed in 2019. A second set of samples is in planning.</p> <p>In addition, API has conducted 4 projects related to hydrogen embrittlement and 21 projects related to corrosion resistant alloys.</p>
2	Materials and Standards	API 6A 21st Edition	Being drafted and is expected to require API 20E bolts.
		API 6D 25th Edition	Being drafted. TG has agreed to make mandatory the use API 20E BSL-1 and 20E BSL-2 for all pressure boundary bolting.
		API 6DSS 3rd Edition	Requires API 20E and API 20F for all pressure boundary bolts in the document published August 2017.
		API 16A 4th Edition	4 th edition with addendum 1 is published. HPHT annex is in comment resolution. Addendum 3, which addresses QTC issues, operator qualification testing, and BSR testing requirements, is out for ballot with a closing date of November 13 th .
		API 16AR 1st Edition	Bolting conforming to API 20E or API 20F is a requirement for pressure controlling bolting, closure bolting and pressure retaining bolting in the document published April 2017. Addendum is being developed to correct errors to allow the standard to be included in the registration program.
		API 16B 1st Edition	Currently under development and is expected to adopt the TGR-3 bolting recommendations and text to meet 20E or 20F.
		API 16C 3rd Edition	Currently in comment resolution. For subsea bolting, the document requires BSL3 as per 20E or 20F as applicable.
		API 16F 2nd Edition	Published November 2017. Requires API 20E or API 20F bolting. Addendum 1 is in development.

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		API 16ST 2nd Edition	Currently under development.
		API 17D 3rd Edition	Being drafted and is considering the TGRs.
		API 17G 3rd Edition	Ballot did not meet consensus. New draft being developed. Requires API 20E or API 20F for fasteners.
		API 17TR8 2nd Edition	Published March 2018.
		API 20E 2nd Edition	Published February 2017. An addendum was published allowing for the addition of other product geometries. Another addendum is in the reballot stage (to allow qualification of NDE subcontractors based on ISO 17020). The remaining issue (allowing continuous cast for BSL3) has been considered by a work group but remains open.
		API 20F 2nd Edition	Published May 2018.
		API 53 5th Edition	5th edition final recirculation comments are being resolved. Expect to be published 4Q2018. Includes proposed requirements for the periodic replacement of existing subsea bolting that conforms to the latest editions of 16C and 16A.
		API 64 3rd Edition	Published August 2017. Addendum balloted to clarify 20E/F bolting requirements (closed April 5 th). Comment resolution meeting held on July 16 th . Preparing final recirculation draft.
		API Q1, 9th Edition, Addendum 2	Published June 2018.

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
3	TG Recommendations	<p>TGR-1 - SC21</p> <p>TG notes that there is conflict between B633 and F1941 related to requirements for hydrogen embrittlement mitigation. B633 requires stress-relief and bake for product greater than 31 HRC. F1941 does not require stress-relief and requires bake for product greater than 39 HRC. API should contact ASTM to request resolution of this conflict. If this cannot be achieved through ASTM, then API needs to issue an equivalent document under API through SC21. In either case, the revised or new document will then need to be adopted by product SCs. This work should also include requirements for maximum hardness on bolting material.</p>	<p>ASTM Committee B08 issued a B08 Main Committee ballot to add process controls and returned B633 to the 39 HRC bake threshold. Ballot received, as expected, several negative votes. The negative votes were considered at the ASTM Committee B08 meeting in November in Atlanta. Ballot item sponsors present arguments and data to address the objections raised by the negative voters. A motion to begin to override the negatives fell one vote short of the required two thirds majority. At the May meeting in San Diego, the committee spent an entire day reviewing the negative votes. Many of the issues were resolved. A slightly reworked version of the proposal is expected to be ready for debate at the next meeting in November 2018 in Washington, DC. (See also actions under TGR-4 and TGR-18.)</p>
		<p>TGR-3 - SC21</p> <p>TG recommends prohibiting Zinc electroplating for Subsea/Marine application. TG further recommends that an investigation be conducted under the direction of SC21 to determine a better short term (storage) corrosion protection system that would not create hydrogen in service. The results of this study would then need to be adopted into product standards.</p>	<p>Phase 1 testing (SnZn, ZnNi, Zn Flake, TDC Zn Alloy, NiCo Electroplated Zn) is in progress with actual testing expected to start before year end. Testing is expected to take about a year. Interim results will be released as they become available.</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p style="text-align: center;">TGR-4 - SC21</p> <p>TG recommends consideration of an overarching document issued by API through SC21 in cooperation with product SCs covering selection of proper bolting materials for different environments (including subsea) would be helpful.</p>	<p>The comment only ballot for API 21TR1 closed July 13, 2018. Once comment resolution is complete the document will be ready for publication. Publication is expected by year end.</p>
		<p style="text-align: center;">TGR-8 - SC21</p> <p>Do not allow use of B7 or L7 grades above 2.5" in diameter.TG recommends that this be included as part of the overarching document under SC21.</p>	<p>Completed.</p> <p>Do not allow the use of ASTM A320 L7/ASTM A193 B7 bolting for diameters above 2 ½ inches unless the DI of the material is intentionally modified. (The recommendation has been provided to SC6, SC16 and SC17 and will also be covered in API 21TR1.)</p>
		<p style="text-align: center;">TGR-18 - SC21</p> <p>Product subcommittees should review and consider incorporating 20E and 20F requirements (resolve existing conflicting properties specified in product specifications such as hardness).</p>	<p>*Ties into TGR-1* (This work is in response to the TGR-1 request to establish maximum hardness for bolting material.)</p> <p>Objective is to identify hardness and associated yield limit to prevent HISC in subsea fasteners. Testing is underway and is expected to be completed by the second quarter 2019. Some testing has been completed and results are currently being reviewed within the Subgroup. The results will be presented at the SC21 Task Group meeting in January during the winter conference. .</p> <p>The new Subgroup with a charge to provide recommendations for improved accuracy of hardness testing and calculation of test uncertainty is meeting regularly. An initial report of the groups work is expected by the SC21 Task Group January meeting during the winter conference. A draft report has been circulated within the Subgroup. Additionally, a round robin hardness testing to support the report is beginning.</p> <p>A fifth Subgroup was formed to investigate thread hardness on corrosion resistant alloys. The group met and prepared a test plan. The group's request for API funding for testing has been approved. Testing will begin in 2019.</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		TGR-2 - SC20 TG recommends that API expand 20E to more adequately cover the requirements of plating and coating as well as move the supplemental requirements for plating and coating into the body of the document, making them standard requirements.	Done.
		TGR-9 - SC20 TG recommends that volumetric examination where bolt diameter exceeds 2.5" should be added as a requirement to 20E, 20F, BSL-2, and BSL-3.	Done for API 20E. Done for API 20F.
		TGR-11 - SC20 Revise 20F to restrict use of sulfur based lubricants during manufacture of bolting.	Done for API 20F.
		TGR-17 - SC20 Strengthen heat treating and furnace loading requirements in 20E and 20F (more prescriptive requirements related to: spacing, QTC location, and thermocouple placement). Include requirements for oven calibration for pre and post bake operations.	Done for API 20E. Done for API 20F.
		TGR-20 - SC20 SC20 review the supplier controls in 20E and 20F to ensure these adequately cover required controls for subcontracted processes. SC 20 should also monitor the API Q1 revisions.	Done for API 20E. Done for API 20F.
		TGR-19 - SC18 SC18 to form a TG to review the BSEE FIT-QC Report on connector bolt failures to determine if the current requirements of API Spec Q1 has the provisions needed to ensure that system control features are in place, and clearly stated, to eliminate these type of failures in the future.	Done, TG formed.

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p>TGR-3 - SC17</p> <p>TG recommends prohibiting Zinc electroplating for Subsea/Marine application. TG further recommends that an investigation be conducted under the direction of SC21 to determine a better short term (storage) corrosion protection system that would not create hydrogen in service. The results of this study would then need to be adopted into product standards.</p>	<p>Completed. 17D, 3rd Edition is adopting 20E/20F in the Normative Reference, for which TGR-3 has been incorporated.</p>
		<p>TGR-5/TGR-12 - SC17</p> <p>-TG recommends that the product specifications require equipment manufacturers to specify acceptable thread compounds for bolting applications based on material, plating and service.</p> <p>-TG recommends adding requirements to API product specifications to restrict combining these elements in thread compounds.</p>	<p>Completed. 17D 3rd Edition Annex G is addressing:</p> <ol style="list-style-type: none"> 1. Written procedures, incorporating the features of these provisions and specifying the thread lubricant to be used shall be developed for use by the qualified connection assemblers 2. The applied torque/tension in the written procedures shall be validated for some relevant bolt sizes with actual material, coating and lubrication
		<p>TGR-6 - SC17</p> <p>Torqueing requirements should be reviewed to determine if standardization among product specifications is needed.</p>	<p>Completed. 17D 3rd Edition Annex G is addressing:</p> <ol style="list-style-type: none"> 1. Standard closure bolting shall be assembled using torque or other validated bolt preload method that is calculated to achieve a nominal tensile stress of 67 % of the bolt's minimum specified material yield strength (SY). This is to ensure gasket seating during make-up and increase face-to-face contact preload in excess of separation forces at rated working pressure.
		<p>TGR-13 - SC17</p> <p>Guidance should be issued by API on when and how to perform fatigue sensitivity analysis on bolting.</p>	<p>CSOEM approved 2-year research project in SC21 to investigate fatigue properties of bolting. Production of test bolting is expected to be completed in October 2018 with testing to be begin shortly thereafter.</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p style="text-align: center;">TGR-14 - SC17</p> <p>Involved API SC's should address guidance issued in the product specs to require use of BSL-3 in fatigue sensitive applications.</p>	<p>CSOEM approved 2-year research project in SC21 to investigate fatigue properties of bolting. Production of test bolting is expected to be completed in October 2018 with testing to be begin shortly thereafter.</p>
		<p style="text-align: center;">TGR-16 - SC17</p> <p>TG recommends API issue a document to provide guidance on derating of bolting. There are several specifications on material derating due to elevated temperature.</p>	<p>SC17 currently in ongoing discussion with 17D HPHT Annex.</p>
		<p style="text-align: center;">TGR-18 - SC17</p> <p>Product subcommittees should review and consider incorporating 20E and 20F requirements (resolve existing conflicting properties specified in product specifications such as hardness).</p>	<p>Completed. 17D 3rd Edition is adopting 20E/20F in the Normative Reference</p>
		<p style="text-align: center;">TGR-3 - SC16</p> <p>TG recommends prohibiting Zinc electroplating for Subsea/Marine application. TG further recommends that an investigation be conducted under the direction of SC21 to determine a better short term (storage) corrosion protection system that would not create hydrogen in service. The results of this study would then need to be adopted into product standards.</p>	<p>16C - For subsea bolting, the document requires BSL3 as per 20E or 20F as applicable.</p> <p>16A - Completed</p> <p>16ST - The 2nd Edition of API RP 16ST is currently under development and is debating whether or not to adopt the TGR-3 bolting recommendations and text to meet 20E or 20F as this equipment is for surface use only.</p> <p>16B - The 1st Edition of API Spec 16B is currently under development and is debating whether or not to adopt the TGR-3 bolting recommendations and text to meet 20E or 20F as this equipment is for surface use only.</p> <p>16D – Completed; will not be included.</p> <p>16F - Completed</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p>TGR-5/TGR-12 - SC16</p> <p>TG recommends that the product specifications require equipment manufacturers to specify acceptable thread compounds for bolting applications based on material, plating and service.-TG recommends adding requirements to API product specifications to restrict combining these elements in thread compounds.</p>	<p>16C – Is expected to be addressed in the 4th edition (next revision).</p> <p>16A - Completed</p> <p>16ST - The 2nd Edition of API RP 16ST is currently under development and is expected to reference the recommendations to be contained in operating manuals of Spec 16B equipment, including assembly and disassembly information, as well as flange make-up procedure (requirements for lubricant, torque, tightening pattern, percentage increments for torque, etc.)</p> <p>16B - The 1st Edition of API Spec 16B is currently under development and is expected to contain the following requirement for all operating manuals of 16B equipment: assembly and disassembly information that includes flange make-up procedure that includes requirements for lubricant, torque, tightening pattern, percentage increments for torque, etc.</p> <p>16D - Will discuss this in the 4th Edition or via addendum if deemed necessary.</p>
		<p>TGR-6 - SC16</p> <p>Torqueing requirements should be reviewed to determine if standardization among product specifications is needed.</p>	<p>16C - Will be addressed in the 4th edition (next revision).</p> <p>16A - Completed</p> <p>16ST - The 2nd Edition of API RP 16ST is currently under development and is expected to reference the recommendations to be contained in operating manuals of Spec 16B equipment, including assembly and disassembly information, as well as flange make-up procedure (requirements for lubricant, torque, tightening pattern, percentage increments for torque, etc.)</p> <p>16B - The 1st Edition of API Spec 16B is currently under development and is expected to contain the following requirement for all operating manuals of 16B equipment: assembly and disassembly information that includes flange make-up procedure that includes requirements for lubricant, torque, tightening pattern, percentage increments for torque, etc.</p> <p>16D - Will discuss this in the 4th Edition or via addendum if deemed necessary.</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p>TGR-13 - SC16</p> <p>Guidance should be issued by API on when and how to perform fatigue sensitivity analysis on bolting.</p>	<p>16A - API 16A 4th edition does not currently contain requirements for fatigue analysis. The HPHT workgroup included this requirement.</p> <p>16ST - The 2nd Edition of API RP 16ST is currently evaluating the specific locations within the assembly of well control components where fatigue analysis of bolting is needed, especially in assembly of coiled tubing and snubbing well control components.</p> <p>16B - The 1st Edition of API Spec 16B is currently evaluating the need for fatigue analysis of bolting, especially in assembly of coiled tubing and snubbing well control components.</p> <p>16D – Completed - Task group has not noted any areas where fatigue sensitivity analysis is deemed necessary.</p> <p>16F - API 16F does not currently contain requirements for fatigue analysis.</p>
		<p>TGR-14 - SC16</p> <p>Involved API SC’s should address guidance issued in the product specs to require use of BSL-3 in fatigue sensitive applications.</p>	<p>16C - Completed</p> <p>16A - Completed</p> <p>16ST - BSL-3 is expected to be required in the 1st Edition of API Spec 16B for all closure bolting and pressure retaining bolting intended for offshore applications.</p> <p>16B - BSL-3 is expected to be required in the 1st Edition of API Spec 16B for all closure bolting and pressure retaining bolting intended for offshore applications.</p> <p>16D – Completed - Task group has not noted areas of fatigue sensitive applications to date.</p> <p>16F - Completed</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p>TGR-15 - SC16</p> <p>TG recommends revision to API S53 to define a standard method for calculating watch circle.</p>	<p>Completed - S53 Will not incorporate this recommendation as it is outside the scope of S53.</p>
		<p>TGR-16 - SC16</p> <p>TG recommends API issue a document to provide guidance on derating of bolting. There are several specifications on material derating due to elevated temperature.</p>	<p>16A - Currently, this is only addressed in: API TR 6AF1 Technical Report on TemperatureDerating on API Flanges Under Combination of Loading. Note: 16A, 3rd edition only has temperature ratings up to 250F. The referenced 6AF1 provides guidance for derating based on temperature beginning at 350F. Temperature derating is primarily a concern in HPHT applications. This is expected to be addressed in the new 16A HPHT annex.</p> <p>16ST - The 2nd Edition of API RP 16ST is currently evaluating the need for derating of bolting due to bending stresses and temperature, especially in assembly of coiled tubing and snubbing well control components.</p> <p>16B - The 1st Edition of API Spec 16B is currently evaluating the need for derating of bolting due to bending stresses and temperature, especially in assembly of coiled tubing and snubbing well control components.</p> <p>16D – Completed – Task group has not identified any areas of our specification that would be effected by elevated temperatures.</p> <p>16F - HPHT is expected to be addressed in the next edition.</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p>TGR-18 - SC16</p> <p>Product subcommittees should review and consider incorporating 20E and 20F requirements (resolve existing conflicting properties specified in product specifications such as hardness).</p>	<p>16C - Completed</p> <p>16A - Completed</p> <p>16ST - The 2nd Edition of API RP 16ST is debating whether to incorporate 20E and 20F requirements.</p> <p>16B - The 1st Edition of API Spec 16B is debating whether or not to incorporate 20E and 20F requirements.</p> <p>16D - Completed - Decided not to require them for the 3rd edition. Manufacturers will be required to provide documented bolting specifications where applicable.</p> <p>16F - Completed</p>
		<p>TGR-3 - SC6</p> <p>TG recommends prohibiting Zinc electroplating for Subsea/Marine application. TG further recommends that an investigation be conducted under the direction of SC21 to determine a better short term (storage) corrosion protection system that would not create hydrogen in service. The results of this study would then need to be adopted into product standards.</p>	<p>API 6A 21st to consider results of investigation. Note identifies risk of hydrogen charging during plating.</p> <p>API 6DSS 3rd - Completed</p>
		<p>TGR-5/TGR-12 - SC6</p> <p>-TG recommends that the product specifications require equipment manufacturers to specify acceptable thread compounds for bolting applications based on material, plating and service.</p> <p>-TG recommends adding requirements to API product specifications to restrict combining these elements in thread compounds.</p>	<p>6A 21st edition in development, is expected to address thread compounds in Annex E.</p> <p>6DSS 3rd – Completed.</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p style="text-align: center;">TGR-6 - SC6</p> <p>Torqueing requirements should be reviewed to determine if standardization among product specifications is needed.</p>	6A 21st edition in development, is expected to address torqueing practice in Annex E.
		<p style="text-align: center;">TGR-7/TGR-10 - SC6</p> <p>TG recommends modification of 6A to require impact testing at or below design temperature w/ acceptance criteria for larger cross section bolting (over 2.5").</p>	<p>6A 21st edition is expected to address impact testing.</p> <p>6DSS 3rd – Completed.</p>
		<p style="text-align: center;">TGR-13 - SC6</p> <p>Guidance should be issued by API on when and how to perform fatigue sensitivity analysis on bolting.</p>	See TGR-14
		<p style="text-align: center;">TGR-14 - SC6</p> <p>Involved API SC's should address guidance issued in the product specs to require use of BSL-3 in fatigue sensitive applications.</p>	6A 21 st – Completed. Fatigue loading is outside the document scope. Annex B guides purchaser to define fatigue application of a product.
		<p style="text-align: center;">TGR-16 - SC6</p> <p>TG recommends API issue a document to provide guidance on derating of bolting. There are several specifications on material derating due to elevated temperature.</p>	<p>6A 21st edition in development, is expected to address de-rating due to temperature.</p> <p>6DSS 3rd – Not applicable to this specification.</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p>TGR-18 - SC6</p> <p>Product subcommittees should review and consider incorporating 20E and 20F requirements (resolve existing conflicting properties specified in product specifications such as hardness).</p>	<p>6A 21st Same as TGR-14</p> <p>6D 25th Plans are to make 20E BSL-1 mandatory for class rating 900 and higher on the next revision in late 2019.</p> <p>6DSS 3rd – Completed.</p>
4	QAQC	API Q1 9th Edition, Addendum 2	Published June 2018.

Topic	Discussion	OEM 1	OEM 2	OEM 3	OEM 1 Comments	OEM 2 Comments	OEM 3 Comments
2017 Deliverables							
1	Bulletin identifying critical BOP bolting > 35 HRC	Attach any EB/PNI identifying critical bolting > 35 HRC	Completed - February 2016	Completed - February 24, 2016	Completed - October 2016	Product Notification & Improvement 16-008 issued 9/2016 Product Notification & Improvement 16-009 issued 9/2016 Product Notification & Improvement 16-010 issued 10/2016	Product Information Bulletin D4516545916 Released February 24, 2016 PA 40832 was generated in response to BSEE Safety Alert 318. Company does not provide bolts for pressure containing/pressure controlling with hardness greater than 35 HRC. See attachment. Revision 2 of PA 40832 was released in 12/2016 to communicate that Engineering Bulletin 962D (Torque guidance for critical bolting) was released and Company uses FPR to investigate field issues and uses Product Advisory or Product Safety Alerts to communicate issues to Company equipment owners.
2	Part Numbers for API 20 E/F replacement Bolting for critical BOP bolting > 35 HRC	Attach any EB/PNI identifying part numbers for critical bolting > 35 HRC	Completed - NA	Completed - 2016	Completed - October 2016	Product Notification & Improvement 16-008 issued 9/2016 Product Notification & Improvement 16-009 issued 9/2016 Product Notification & Improvement 16-010 issued 10/2016	All replacement bolting for critical BOP bolting meet API 20E BSL-3 Company has generated critical bolting part numbers for compliance to API 20E, BSL-3. These are available to our customers and more are being generated as needed. A few part numbers have been set up for 20F at this moment as CRA bolting is not normally provided in BOP equipment for critical bolting. See attachment with sample bolting part numbers.
3	Bulletin updating Torque Application	Attach any EB/PNI identifying updated Torque guidance for critical bolting	Completed - March 2016	Completed - February 24, 2016	Completed	Torque procedures issued. Operating procedures updated.	D4516545916 Release February 24, 2016. Torque revision 02 is out in 1/2017 EB-962D, released on March 2016. See attachment.
4	Internal process for enhanced failure reporting of critical bolting	Attach any example of updated failure reporting process. Attach any example of enhanced failure reporting related to critical BOP bolting	Completed - 1990's	Completed	Completed	Failure reporting and tracking through our system. The reporting input from database to our system. The system provides feedback to customers through tracking responses, and drive analysis. External communication through Engineering Bulletin, Product Notification, Product Improvement, Customer Letters, etc.	Company has internal procedure called Field Performance Report (FPR) for capturing field performance failures of Company equipment. This FPR is the mechanism used to initiate an investigation and determine the Root Cause of the failure. In addition, Company has a system to communicate Product Advisories (PA) and Safety Alerts (SA) as well as Engineering Bulletins (EB) to our customers if deemed necessary resulting from an FPR investigation or internal reviews. The guidelines for these procedures are outlined in Company Engineering Procedure EP-307 (FPRs), CEP-030 (SAs/PAs) and EP-204 (EBs). These procedures are considered "Confidential" and cannot be distributed outside of Company.
5	Updated QAQC standards for bolt manufacturing	Attach any example of updated QA process	Completed - 1st	Completed	Completed - October 2016	QMS procedure improvements regarding supplier qualification. 20E vendor qualification and audit per family of fasteners, sub-tier supplier audit, review of mill audits. The supplier manufacturing process is locked and audited annually. Improved process incorporates supplier quality, engineering, quality teams and product documentation compliance to original qualification. Increased overall scrutiny on critical bolting incorporates engineering lockdown of parts and 3rd party onsite reviews.	Bolts specified to API 20E BSL-3. All our BSL bolting is only manufactured by vendors our QA department has physically audited and approved for critical fasteners. Per API 20E the manufacture of the finished part has to audit the mill producing the material for BSL. The documentation required of these vendors are as follows: Full Dimensional Inspection Report, Manufactures Material Test Report (Chemical and Mechanical), MPI Test Report, Ultrasonic Test Report, 100% Hardness Testing (If Serialized), Steel Certificate of Test from the Mill, Mechanical Testing by independent Lab to ensure the product from the mill meets the BSL Requirements (Only if manufacture did not buy direct from mill), Heat Treat Certification, Micro-Structure Examination with Photo, Macro-Structure Examination with Photo, and Plating Certification. Quality Plans (QP-000112-09) have been created for Pressure Containing and Primary Load Bearing Oil and Gas Equipment Used in Subsea Applications: API 6A, API 17D and API 20E. Bolting Specification BSL-3. QP-000112-09 is considered "Confidential" and cannot be distributed outside of Company.
2018-2023 Deliverables							
A1	Part numbers for API 20 E/F replacement bolting for all critical BOP bolting	Attach any EB/PNI identifying part numbers for critical bolting	Completed - December 2016	Completed	Completed - October 2016	Product Notification & Improvement 16-008 issued 9/2016 Product Notification & Improvement 16-009 issued 9/2016 Product Notification & Improvement 16-010 issued 10/2016	16543557-001, 16569565-001, 16569606-001, 165004, 16587680-001, 16587681-001, 16587682-001. All part numbers referenced in PIB D4516545196 Company has generated critical bolting part numbers for compliance to API 20E, BSL-3. These are available to our customers and more are being generated as needed. A few part numbers have been set up for 20F at this moment as CRA bolting is not normally provided in BOP equipment for critical bolting. See attachment with sample bolting part numbers. PA 40832 Rev 02 addresses this item.
A2	Replacement bolting coating specified	Attach any EB/PNI identifying replacement coating	Completed - December 2017	Completed	Completed - October 2016	Product Notification & Improvement 16-010 issued 10/2016	Zinc-Nickel Plate - Plate to ASTM F1941 Company is engaging different vendors to find alternatives to electrodeposited zinc plating. Update 04/19/2017 Action still in progress. Estimated completion date End of May 2017. Update 06/30/2017 Action still in progress. Estimated completion date end of August 2017 Update 10/15/2017 We have identified and qualified replacement coating. We are currently working to qualify vendors. Update 01/02/2018 we have qualified the vendors with replacement coating.

Summary of Progress on Equipment Owner Operations
(Q3, 2018)

Total Number of Active BOPs = 36			Not Started		In-Progress		Completed	
			Number	Percent	Number	Percent	Number	Percent
Item	Topic	Discussion						
2017 Deliverables								
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	0	0%	0	0%	36	100%
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	0	0%	2	6%	34	94%
3	Rig Procedure for torqueing of critical bolting	Can include example rig procedure	0	0%	2	6%	34	94%
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	0	0%	0	0%	36	100%
5	MTR review for installed critical bolting:	Can include letter from OEM, example of MTR audit	0	0%	3	8%	33	92%
	- OEM SOF critical bolting per relevant specification		0	0%	0	0%	36	100%
	- MTRs per relevant specification		0	0%	2	6%	34	94%
	- Bolting audit to verify MTR information		0	0%	4	11%	32	89%
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	0	0%	4	11%	32	89%
2018-2023 Deliverables								
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	9	25%	7	19%	20	56%
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	13	36%	20	56%	3	8%

Item	Topic	Discussion	Rig 1 BOP 1	Rig 2 BOP 1	Rig 3 BOP 1	Rig 4 BOP 1
			Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	100%	100%	100%	NA
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	100%	100%	100%	NA
3	Rig Procedure for torquing of critical bolting	Can include example rig procedure	In-progress	Completed - July 15, 2014	In-progress	NA
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	2015 Training in Rig maint. Sys. 100% participation in GOM	Completed - July 20, 2016	2015 Training in Rig maint. Sys. 100% participation in GOM	NA
5	MTR review for installed critical bolting: - OEM SOF critical bolting per relevant specification - MTRs per relevant specification - Bolting audit to verify MTR information	Can include letter from OEM, example of MTR audit	Completed	Completed - July 15, 2014	Completed	NA
			PA 40832 from OEM	Completed - July 15, 2014	PA 40832 from OEM	NA
			Completed - October 2016	Completed - July 15, 2014	Completed - October 2016	NA
			Completed - October 2016	Completed - July 15, 2014	Completed - October 2016	NA
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	Completed - 2015	Completed - March 15, 2016	Completed - 2015	NA
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	plan to replace drill thru bolting in 2019	0%	plan to replace drill thru bolting in 2019	NA
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	0%	0%	0%	NA

			Rig 4 BOP 2	Rig 5 BOP 1	Rig 5 BOP 2	Rig 6 BOP 1
Item	Topic	Discussion	Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	NA	100%	100%	NA
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	NA	100%	100%	NA
3	Rig Procedure for torqueing of critical bolting	Can include example rig procedure	NA	Completed - March 9, 2015	Completed - March 9, 2015	NA
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	NA	Completed - July 20, 2016	Completed - July 20, 2016	NA
5	MTR review for installed critical bolting:	Can include letter from OEM, example of MTR audit	NA	Completed-May 31, 2018	Completed-March 13, 2018	NA
	NA		Completed-May 31, 2018	Completed-March 13, 2018	NA	
	NA		Completed-May 31, 2018	Completed-March 13, 2018	NA	
	NA		Completed-May 31, 2018	Completed-March 13, 2018	NA	
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	NA	Completed - March 15, 2016	Completed - March 15, 2016	NA
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	NA	0%	0%	NA
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	NA	0%	0%	NA

Item	Topic	Discussion	Rig 7 BOP 1	Rig 7 BOP 2	Rig 8 BOP 1	Rig 9 BOP 1
			Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	Completed - February 16, 2017	Completed - February 16, 2017	NA	100%
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	Completed - July 1, 2017	Completed - Jun 2017	NA	100%
3	Rig Procedure for torqueing of critical bolting	Can include example rig procedure	Completed - November 1, 2016	Completed - November 1, 2016	NA	Completed - Oct 4, 2016
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	Completed - November 1, 2016	Completed - November 1, 2016	NA	IOGP Failure reporting
5	MTR review for installed critical bolting: - OEM SOF critical bolting per relevant specification - MTRs per relevant specification - Bolting audit to verify MTR information	Can include letter from OEM, example of MTR audit	Completed - November 1, 2016	Completed - November 1, 2016	NA	Completed - January 2017
			Completed - November 1, 2016	Completed - November 1, 2016	NA	Completed
			Completed - November 1, 2016	Completed - November 1, 2016	NA	Completed
			Completed - November 1, 2016	Completed - November 1, 2016	NA	Completed
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	Completed - December 1, 2017	Completed - December 1, 2017	NA	Completed - April 2017
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	15%	15%	NA	100%
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	15%	65%	NA	98%

Item	Topic	Discussion	Rig 9 BOP 2	Rig 10 BOP 1	Rig 10 BOP 2	Rig 11 BOP 1
			Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	100%	100%	100%	NA
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	100%	100%	100%	NA
3	Rig Procedure for torqueing of critical bolting	Can include example rig procedure	Completed - Oct 5, 2016	Completed - March 9, 2015	Completed - March 9, 2015	NA
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	IOGP Failure reporting	Completed - July 20, 2016	Completed - July 20, 2016	NA
5	MTR review for installed critical bolting:	Can include letter from OEM, example of MTR audit	Completed - January 2017	Completed-February 26, 2018	Completed-August 16, 2018	NA
	- OEM SOF critical bolting per relevant specification		Completed	Completed-February 26, 2018	Completed-August 16, 2018	NA
	- MTRs per relevant specification		Completed	Completed-February 26, 2018	Completed-August 16, 2018	NA
	- Bolting audit to verify MTR information		Completed	Completed-February 26, 2018	Completed-August 16, 2018	NA
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	Completed - 2017	Completed - March 15, 2016	Completed - March 15, 2016	NA
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	100%	0%	0%	NA
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	100%	0%	0%	NA

Item	Topic	Discussion	Rig 12 BOP 1	Rig 12 BOP 2	Rig 13 BOP 1	Rig 14 BOP 1
			Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	100%	100%	100%	100%
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	100%	100%	100%	100%
3	Rig Procedure for torquing of critical bolting	Can include example rig procedure	Completed	Completed	Complete	Completed
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	IOGP BOP Reliability Database	IOGP BOP Reliability Database	Completed - May 8, 2015	IOGP BOP Reliability Database
5	MTR review for installed critical bolting:	Can include letter from OEM, example of MTR audit	Completed - December 2016	Completed - December 2016	In-progress	Completed - December 2016
	- OEM SOF critical bolting per relevant specification		Completed	Completed	Completed - February 24, 2016	Completed
	- MTRs per relevant specification		Completed	Completed	Completed - May 4, 2016	Completed
	- Bolting audit to verify MTR information		Completed	Completed	In-progress	Completed
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	Completed	Completed	Completed - December 9, 2015	Completed
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	80%	80%	0%	100%
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	80%	80%	0%	90%

Item	Topic	Discussion	Rig 14 BOP 2	Rig 15 BOP 1	Rig 15 BOP 2	Rig 16 BOP 1
			Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	100%	100%	100%	100%
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	100%	100%	100%	100%
3	Rig Procedure for torquing of critical bolting	Can include example rig procedure	Completed	Completed	Completed	Completed
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	IOGP BOP Reliability Database	Completed	Completed	IOGP BOP Reliability Database
5	MTR review for installed critical bolting:	Can include letter from OEM, example of MTR audit	Completed - December 2016	Completed	Completed	Completed - December 2016
	- OEM SOF critical bolting per relevant specification		Completed	In Progress	In Progress	Completed
	- MTRs per relevant specification		Completed	Completed	Completed	Completed
	- Bolting audit to verify MTR information		Completed	Completed	Completed	Completed
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	Completed	In-progress	In-progress	Completed
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	100%	100%	100%	100%
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	90%	8%	8%	37%

Item	Topic	Discussion	Rig 17 BOP 1	Rig 17 BOP 2	Rig 18 BOP 1	Rig 18 BOP 2
			Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	100%	100%	Completed - February 16, 2017	Completed - February 16, 2017
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	100%	100%	Completed - Jun 2017	Completed - May 1, 2017
3	Rig Procedure for torquing of critical bolting	Can include example rig procedure	Completed - March 9, 2015	Completed - March 9, 2015	Completed - November 1, 2016	Completed - November 1, 2016
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	Completed - July 20, 2016	Completed - July 20, 2016	Completed - November 1, 2016	Completed - November 1, 2016
5	MTR review for installed critical bolting: - OEM SOF critical bolting per relevant specification - MTRs per relevant specification - Bolting audit to verify MTR information	Can include letter from OEM, example of MTR audit	Completed Dec 5, 2017	Completed July 12, 2017	Completed - November 1, 2016	Completed - November 1, 2016
			Completed Dec 5, 2017	Completed July 12, 2017	Completed - November 1, 2016	Completed - November 1, 2016
			Completed Dec 5, 2017	Completed - July 12, 2017	Completed - November 1, 2016	Completed - November 1, 2016
			Completed Dec 5, 2017	Completed - June 12, 2017	Completed - November 1, 2016	Completed - November 1, 2016
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	Completed - March 15, 2016	Completed - March 15, 2016	Completed - December 1, 2017	Completed - December 1, 2017
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	10%	20%	Completed - February 16, 2017	Completed - February 16, 2017
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	0%	5%	15%	Completed - August 2018

Item	Topic	Discussion	Rig 19 BOP 1	Rig 20 BOP 1	Rig 21 BOP 1	Rig 21 BOP 2
			Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	100%	100%	Completed - February 16, 2017	Completed - February 16, 2017
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	100%	100%	Complete - Feb, 15, 2018	Complete - Mar, 15, 2018
3	Rig Procedure for torquing of critical bolting	Can include example rig procedure	Completed	Completed March 29, 2016	Completed - November 1, 2016	Completed - November 1, 2016
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	IOGP BOP Reliability Database	Completed July 28, 2016	Completed - November 1, 2016	Completed - November 1, 2016
5	MTR review for installed critical bolting:	Can include letter from OEM, example of MTR audit	Completed - December 2016	Completed April 1, 2016	Completed - November 1, 2016	Completed - November 1, 2016
	- OEM SOF critical bolting per relevant specification		Completed	Completed February 18, 2016	Completed - November 1, 2016	Completed - November 1, 2016
	- MTRs per relevant specification		Completed	Completed April 1, 2016	Completed - November 1, 2016	Completed - November 1, 2016
	- Bolting audit to verify MTR information		Completed	Completed April 1, 2016	Completed - November 1, 2016	Completed - November 1, 2016
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	Completed	Completed April 1, 2016	Completed - December 1, 2017	Completed - December 1, 2017
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	0%	100%	Completed - March 1, 2018	Completed - March 1, 2018
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	0%	95%	Completed - August 2018	15%

Item	Topic	Discussion	Rig 22 BOP 1	Rig 23 BOP 1	Rig 23 BOP 2	Rig 24 BOP 1
			Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	100%	100%	100%	100%
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	100%	100%	100%	In-progress
3	Rig Procedure for torqueing of critical bolting	Can include example rig procedure	Completed	Completed	Completed	Completed
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	IOGP BOP Reliability Database	IOGP BOP Reliability Database	IOGP BOP Reliability Database	Completed
5	MTR review for installed critical bolting:	Can include letter from OEM, example of MTR audit	Completed - December 2016	Completed - December 2016	Completed - December 2016	In Progress
	- OEM SOF critical bolting per relevant specification		Completed	Completed	Completed	In Progress
	- MTRs per relevant specification		Completed	Completed	Completed	In-progress
	- Bolting audit to verify MTR information		Completed	Completed	Completed	In-progress
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	Completed	Completed	Completed	In-progress
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	100%	100%	100%	100%
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	50%	80%	80%	0%

Item	Topic	Discussion	Rig 24 BOP 2	Rig 25 BOP 1	Rig 26 BOP 1	Rig 26 BOP 2
			Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	100%	NA	Completed - February 16, 2017	Completed - February 16, 2017
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	In-progress	NA	Completed - December 5, 2017	Completed - May 1, 2017
3	Rig Procedure for torquing of critical bolting	Can include example rig procedure	Completed	NA	Completed - November 1, 2016	Completed - November 1, 2016
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	Completed	NA	Completed - November 1, 2016	Completed - November 1, 2016
5	MTR review for installed critical bolting:	Can include letter from OEM, example of MTR audit	In-progress	NA	Completed - November 1, 2016	Completed - November 1, 2016
	- OEM SOF critical bolting per relevant specification		In Progress	NA	Completed - November 1, 2016	Completed - November 1, 2016
	- MTRs per relevant specification		In-progress	NA	Completed - November 1, 2016	Completed - November 1, 2016
	- Bolting audit to verify MTR information		In-progress	NA	Completed - November 1, 2016	Completed - November 1, 2016
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	In-progress	NA	Completed - December 1, 2017	Completed - December 1, 2017
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	100%	NA	Completed - July 20, 2018	15%
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	10%	NA	15%	65%

Item	Topic	Discussion	Rig 27 BOP 1	Rig 28 BOP 1
			Comments	Status
	2017 Deliverables			
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	100%	100%
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	100%	100%
3	Rig Procedure for torqueing of critical bolting	Can include example rig procedure	Completed - July 15, 2014	Complete
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	Completed - July 20, 2016	Completed - May 8, 2015
5	MTR review for installed critical bolting: - OEM SOF critical bolting per relevant specification - MTRs per relevant specification - Bolting audit to verify MTR information	Can include letter from OEM, example of MTR audit	Completed - September, 2016	In-progress
			Completed - September 15, 2016	Completed - February 24, 2016
			Completed - July 12, 2017	Completed - February 24, 2016
			Completed - April 7, 2017	In-progress
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	Completed - March 15, 2016	Completed - December 9, 2015
	2018-2023 Deliverables			
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	0%	0%
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	0%	0%

From: [Holly Hopkins](#)
To: [Beard, Preston](#); Evan@offshoreoperators.com; [Scott Angelle](#)
Subject: RE: [EXTERNAL] Re:
Date: Wednesday, November 7, 2018 3:08:56 PM

Preston,

Can you please let us know who from BSEE will participate in the meeting on Nov 15. Can we also set up a conference line for the meeting? Or we can use mine if you like. With the new date one of our co-chairs can't come to DC in person on Nov 15.

Thanks,
Holly

From: Beard, Preston <preston.beard@bsee.gov>
Sent: Sunday, October 28, 2018 9:43 AM
To: Holly Hopkins <hopkinsh@api.org>; Evan@offshoreoperators.com; [Scott Angelle](#) <scott.angelle@bsee.gov>
Subject: Re: [EXTERNAL] Re:

I have blocked off 2-5 on 11/15

On Sat, Oct 27, 2018 at 3:02 PM Holly Hopkins <hopkinsh@api.org> wrote:

We could do something between 2 and 5 pm on Nov 15. But we are also fine keeping the Nov 27th time. Let us know. Thanks

----- Original message -----

From: Scott Angelle <scott.angelle@bsee.gov>
Date: 10/27/18 2:02 PM (GMT-05:00)
To: Preston Beard <preston.beard@bsee.gov>
Cc: Evan@offshoreoperators.com, Holly Hopkins <hopkinsh@api.org>
Subject: Re:

Isn't that what my original email request you do?

Sent from my iPhone

> On Oct 27, 2018, at 1:13 PM, Preston Beard <preston.beard@bsee.gov> wrote:
>
> I have not. Our November 15-16 slot has opened back up if you would
> prefer that.
>
> -Preston
> 571-585-7001

>
>> On Oct 27, 2018, at 11:30 AM, Scott Angelle <scott.angelle@bsee.gov> wrote:
>>
>> I assume that was before we knew of the changed schedule. Have you
>> asked if they wish to take advantage of the new opening?
>>
>> Sent from my iPhone
>>
>>> On Oct 27, 2018, at 11:27 AM, Preston Beard <preston.beard@bsee.gov> wrote:
>>>
>>> Director,
>>>
>>> We have slated 11/27 at 11am for the meeting
>>>
>>> -Preston
>>> 571-585-7001
>>>
>>>> On Oct 27, 2018, at 10:49 AM, Scott Angelle <scott.angelle@bsee.gov> wrote:
>>>>
>>>> Preston, please contact Evan and holly to advise them of the schedule
>>>> changes that might allow for the accommodation of their original
>>>> request to meet in dc in mid November
>>>>
>>>> Please let me know the results of your efforts
>>>>
>>>> Sent from my iPhone

--

Preston Beard
Advisor, Office of the Director
Bureau of Safety and Environmental Enforcement
(202) 208-3976 (o)
(571) 585-7001 (c)
preston.beard@bsee.gov



From: [Holly Hopkins](#)
To: [Beard, Preston](#)
Cc: [Evan@offshoreoperators.com](#); [Scott Angelle](#)
Subject: Re: [EXTERNAL] Re:
Date: Thursday, November 8, 2018 8:50:31 AM

Ok great thanks

----- Original message -----

From: "Beard, Preston" <preston.beard@bsee.gov>
Date: 11/8/18 8:45 AM (GMT-05:00)
To: Holly Hopkins <hopkinsh@api.org>
Cc: Evan@offshoreoperators.com, Scott Angelle <scott.angelle@bsee.gov>
Subject: Re: [EXTERNAL] Re:

Just Scott and I will attend.

(b) (5)

On Wed, Nov 7, 2018 at 3:08 PM Holly Hopkins <hopkinsh@api.org> wrote:

Preston,

Can you please let us know who from BSEE will participate in the meeting on Nov 15. Can we also set up a conference line for the meeting? Or we can use mine if you like. With the new date one of our co-chairs can't come to DC in person on Nov 15.

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To: Preston Beard <preston.beard@bsee.gov>

Cc: Evan@offshoreoperators.com, Holly Hopkins <hopkinsh@api.org>

Subject: Re:

Isn't that what my original email request you do?

Sent from my iPhone

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> I have not. Our November 15-16 slot has opened back up if you would
> prefer that.

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> -Preston

> 571-585-7001

>

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>> asked if they wish to take advantage of the new opening?

>>

>> Sent from my iPhone

>>

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>>>

>>> Director,

>>>

>>> We have slated 11/27 at 11am for the meeting

>>>

>>> -Preston

>>> 571-585-7001

>>>

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>>>> Preston, please contact Evan and holly to advise them of the schedule
>>>> changes that might allow for the accommodation of their original
>>>> request to meet in dc in mid November
>>>>
>>>> Please let me know the results of your efforts
>>>>
>>>> Sent from my iPhone

--

Preston Beard

Advisor, Office of the Director

Bureau of Safety and Environmental Enforcement

(202) 208-3976 (o)

(571) 585-7001 (c)

preston.beard@bsee.gov



--

Preston Beard

Advisor, Office of the Director

Bureau of Safety and Environmental Enforcement

(202) 208-3976 (o)

(571) 585-7001 (c)

preston.beard@bsee.gov



From: [Scott Angelle](#)
To: [Erik Milito](#)
Cc: [Angelico, Eileen](#); [Tiffany Gray](#); [Vince Burke](#); [Beard, Preston](#)
Subject: Re: [EXTERNAL] RE: Latest list of attendees & agenda
Date: Friday, November 9, 2018 7:09:23 PM

We will have copies to hand out

Sent from my iPhone

> On Nov 9, 2018, at 6:53 PM, Erik Milito <militoe@api.org> wrote:

>

> Thank you. We should have a hand clicker to advance the slides and we will have people on hand to assist.

>

> Best regards,

>

> Erik

>

>> On Nov 9, 2018, at 6:36 PM, Angelico, Eileen <eileen.angelico@bsee.gov> wrote:

>>

>> Good evening Erik,

>>

>> Please find attached the Powerpoint presentation that BSEE Director Angelle will use on November 12, 2018.

>>

>> Will the Director need to advance the slides or will someone be there to assist?

>>

>> The Director is traveling alone for this trip. His cell number is (571) 585-3730, and if you need to and cannot reach him, please call my mobile at (504) 654-7840.

>>

>> Thanks,

>>

>> Eileen

>>

>> On Fri, Nov 9, 2018 at 12:48 PM Gray, Tiffany <tiffany.gray@bsee.gov<<mailto:tiffany.gray@bsee.gov>>> wrote:

>> Wonderful; thank you!

>>

>>

>> Tiffany Gray

>> Public Affairs Specialist

>> Bureau of Safety and Environmental Enforcement

>> Office: (202) 208 - 4378

>> Mobile: (202) 803 - 1886

>> tiffany.gray@bsee.gov<<mailto:tiffany.gray@bsee.gov>>

>>

>> [https://www.bsee.gov/sites/bsee.gov/files/photos/facebook-icon_16x16.png]

<<https://www.facebook.com/BSEEGov/>> [https://www.bsee.gov/sites/bsee.gov/files/photos/twitter-icon_16x16.png] <<https://twitter.com/BSEEGov>> [https://www.bsee.gov/sites/bsee.gov/files/photos/youtube-icon_16x16.png] <<https://www.youtube.com/user/bseegov>>

[https://www.bsee.gov/sites/bsee.gov/files/photos/flickr-icon_16x16.png]

<<https://www.flickr.com/photos/bseegov/>> [https://www.bsee.gov/sites/bsee.gov/files/photos/linkedin-icon_16x16.png] <<https://www.linkedin.com/company/bureau-of-safety-and-environmental-enforcement>>

>>

>>

>>

>> On Fri, Nov 9, 2018 at 12:47 PM Erik Milito <mitoe@api.org<<mailto:mitoe@api.org>>> wrote:
>> Yes. That works. Thank you.
>>
>> Best,
>>
>> Erik
>>
>> On Nov 9, 2018, at 12:46 PM, Gray, Tiffany <tiffany.gray@bsee.gov<<mailto:tiffany.gray@bsee.gov>>> wrote:
>>
>> Hi Erik,
>>
>> One question Eileen just asked that I pose to you - they are still working to finalize the Director's slide presentation. If it is shared with you tomorrow, will that give you enough time to get it loaded up and ready for Monday's meeting?
>>
>> Thank you,
>>
>>
>> Tiffany Gray
>> Public Affairs Specialist
>> Bureau of Safety and Environmental Enforcement
>> Office: (202) 208 - 4378
>> Mobile: (202) 803 - 1886
>> tiffany.gray@bsee.gov<<mailto:tiffany.gray@bsee.gov>>
>>
>> [https://www.bsee.gov/sites/bsee.gov/files/photos/facebook-icon_16x16.png]
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>>
>>
>>
>> On Fri, Nov 9, 2018 at 12:25 PM Gray, Tiffany <tiffany.gray@bsee.gov<<mailto:tiffany.gray@bsee.gov>>> wrote:
>> Thank you, Erik. Any information you provide is helpful.
>>
>>
>> Tiffany Gray
>> Public Affairs Specialist
>> Bureau of Safety and Environmental Enforcement
>> Office: (202) 208 - 4378
>> Mobile: (202) 803 - 1886
>> tiffany.gray@bsee.gov<<mailto:tiffany.gray@bsee.gov>>
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>>
>>
>>

>> On Fri, Nov 9, 2018 at 11:17 AM Erik Milito <mitoe@api.org<<mailto:mitoe@api.org>>> wrote:
>> Attached is the diagram of the room set-up. I will work on getting actual dimensions but not sure how soon I might get them. It is a fairly large room.
>>
>> Thanks.
>>
>> Erik
>> <API Upstream Committee Speech 11-12-2018 FINAL.pptx>
>

From: [Scott Angelle](#)
To: [Holly Hopkins](#)
Subject: GAO-17-293 Final_03-21-17.pdf
Date: Saturday, November 10, 2018 2:11:28 PM
Attachments: [ATT00001.txt](#)
[GAO-17-293 Final_03-21-17.pdf](#)

Sent from my iPhone



March 2017

OIL AND GAS MANAGEMENT

Stronger Leadership
Commitment Needed
at Interior to Improve
Offshore Oversight
and Internal
Management

Why GAO Did This Study

On April 20, 2010, the *Deepwater Horizon* drilling rig exploded in the Gulf of Mexico. The incident raised questions about Interior's oversight of offshore oil and gas activities. In response, in May 2010, Interior reorganized its offshore oil and gas management activities, and in October 2011, created BSEE to among other things, develop regulations, conduct inspections, and take enforcement actions. In February 2011, GAO added the management of federal oil and gas resources to its High-Risk List. In December 2015, BSEE issued a strategic plan outlining initiatives to improve offshore safety and environmental oversight as well as its internal management.

This report examines what efforts BSEE leadership has made in implementing key strategic initiatives to improve its (1) offshore safety and environmental oversight and (2) internal management. GAO reviewed laws, regulations, policies, and other documents related to the development of BSEE's strategic initiatives. GAO also interviewed BSEE officials.

What GAO Recommends

GAO is making four recommendations, including that higher-level leadership within Interior (1) establish a mechanism for BSEE management to obtain and incorporate input from bureau personnel that can affect the bureau's ability to achieve its objectives and (2) address leadership commitment deficiencies within BSEE, including by implementing internal management initiatives and ongoing strategic initiatives in a timely manner. Interior neither agreed nor disagreed with our recommendations.

View [GAO-17-293](#). For more information, contact Frank Rusco at (202) 512-3841 or ruscof@gao.gov.

March 2017

OIL AND GAS MANAGEMENT

Stronger Leadership Commitment Needed at Interior to Improve Offshore Oversight and Internal Management

What GAO Found

The Department of the Interior's (Interior) Bureau of Safety and Environmental Enforcement (BSEE) leadership has started several key strategic initiatives to improve its offshore safety and environmental oversight, but its limited efforts to obtain and incorporate input from within the bureau have hindered its progress. For example, to supplement its mandatory annual regulatory compliance inspections, in 2012, BSEE leadership began developing a risk-based inspection initiative to identify high-risk production facilities and assess their safety systems and management controls. During pilot testing in 2016, several deficiencies—including the usefulness of its facility risk-assessment model and unclear inspection protocols—caused BSEE to halt the pilot. According to bureau officials, during the development of the initiative, BSEE headquarters did not effectively obtain and incorporate input from regional personnel with long-standing experience in previous risk-based inspection efforts, who could have identified deficiencies earlier in the process. GAO previously found that when implementing large-scale management initiatives a key practice is involving employees to obtain their ideas by incorporating their feedback into new policies and procedures. Instead, BSEE leadership appears to have excluded the input of regional personnel by, for example, not incorporating input beyond the risk-assessment tool when selecting the first pilot facility, even though it was prescribed to do so in the bureau's inspection planning methodology. This undercut the pilot effort, raising questions about whether the bureau's leadership has the commitment necessary to successfully implement its risk-based program. Without higher level leadership within Interior establishing a mechanism for BSEE to obtain and incorporate input from personnel within the bureau, BSEE's risk-based inspection initiative could face continued delays.

Similarly, since 2013, BSEE leadership has started several key strategic initiatives to improve its internal management, but none have been successfully implemented, in part, because of limited leadership commitment. For example, BSEE's leadership identified the importance of developing performance measures in its 2012-2015 strategic plan. BSEE began one of three attempts to develop performance measures in July 2014 by hiring a contractor to develop measures, but the bureau terminated this contract in January 2015 after determining a need to complete its internal reorganization before developing such measures. A second effort to develop performance measures started in December 2015, using the same consultant, and yielded 12 performance measures in March 2016, but BSEE did not implement them, in part, because data did not exist to use the measures. By the time BSEE received this consultant's report, it had already begun a third effort to internally develop performance measures; as of November 2016 had identified 17 draft performance measures, but BSEE leadership missed repeated deadlines to review them. BSEE officials told GAO that after leadership approval, the bureau plans to pilot these measures and develop others. BSEE leadership has not demonstrated continuing oversight and accountability for implementing internal management initiatives, as evidenced by its limited progress implementing key strategic initiatives. Without higher-level oversight within Interior addressing leadership commitment deficiencies within BSEE, the bureau is unlikely to succeed in implementing internal management initiatives.

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Abbreviations

Argonne	Argonne National Laboratory
BOEM	Bureau of Ocean Energy Management
BOEMRE	Bureau of Ocean Energy, Management, Regulation and Enforcement
BSEE	Bureau of Safety and Environmental Enforcement
ERM	Enterprise Risk Management
IG	Office of Inspector General
INC	incident of noncompliance
Interior	Department of the Interior
IPRA	Integrity and Professional Responsibility Advisor
IRU	Investigations and Review Unit
MMS	Minerals Management Service
NAPA	National Academy of Public Administration
NEPA	National Environmental Policy Act
OCS	outer continental shelf
OCSLA	Outer Continental Shelf Lands Act
SEMS	Safety and Environmental Management System

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March 21, 2017

The Honorable Jason Chaffetz
Chairman
Committee on Oversight and Government Reform
House of Representatives

The Honorable Rob Bishop
Chairman
The Honorable Raúl Grijalva
Ranking Member
Committee on Natural Resources
House of Representatives

The Honorable Blake Farenthold
Chairman
Subcommittee on the Interior, Energy, and Environment
Committee on Oversight and Government Reform
House of Representatives

On April 20, 2010, the Deepwater Horizon drilling rig exploded in the Gulf of Mexico, resulting in 11 deaths, serious injuries, and the largest marine oil spill in the history of the United States. The Deepwater Horizon incident raised questions about the Department of the Interior's (Interior) oversight of offshore oil and gas activities in the Gulf of Mexico and led to investigations by Interior's Office of Inspector General (IG)¹ and Interior's Outer Continental Shelf (OCS) Safety Oversight Board.² In response to the Deepwater Horizon incident, Interior initiated a number of policy reforms intended to strengthen its oversight of offshore oil and gas production on the OCS. On May 19, 2010, Interior reorganized the

¹U.S. Department of the Interior, Office of Inspector General, *A New Horizon: Looking to the Future of the Bureau of Ocean Energy Management, Regulation and Enforcement* (Washington, D.C.: Dec. 7, 2010).

²The OCS refers to the submerged lands outside the territorial jurisdiction of all 50 states, but within U.S. jurisdiction and control. The portion of the North American continental edge that is federally designated as the OCS generally extends seaward 3 geographical miles off the coastline to at least 200 nautical miles. The OCS Safety Oversight Board was created by secretarial order to review and oversee Interior OCS operations to support reasoned and fact-based recommendations for potential improvement. See U.S. Department of the Interior Outer Continental Shelf Safety Oversight Board, *Report to Secretary of the Interior Ken Salazar* (Sept. 1, 2010).

Minerals Management Service (MMS)—the agency responsible for managing oil and gas activities in federal waters and collecting revenues from oil and gas development on all federal lands and waters—to improve the management, oversight, and accountability of activities on the OCS.³ As an interim step, Interior restructured MMS into the Bureau of Ocean Energy, Management, Regulation and Enforcement (BOEMRE), responsible for offshore oil and gas management and the Office of Natural Resources Revenue responsible for revenue collections. On October 1, 2011, Interior completed the reorganization of MMS by splitting BOEMRE into the Bureau of Ocean Energy Management (BOEM), which is responsible for leasing and resource management, and the Bureau of Safety and Environmental Enforcement (BSEE), which is responsible for reviewing drilling permits, inspecting offshore drilling rigs and production platforms, and developing regulations and standards for offshore drilling.

Over the past several years, we have issued a number of reports identifying Interior’s challenges in managing federal oil and gas resources. The balance of our work has shown that management of federal oil and gas resources was a high risk area and we added it to the High Risk List in 2011.⁴ We identified challenges in Interior’s management of oil and gas on leased federal lands and waters. We found that Interior (1) did not have reasonable assurance that it was collecting its share of revenue from oil and gas produced on federal lands and waters; (2) continued to experience problems hiring, training, and retaining sufficient staff to provide oversight and management of oil and gas operations on federal lands and waters; and (3) was undertaking a major challenging reorganization of its oversight of both its offshore oil and gas management and revenue collection functions.

³Secretarial Order No. 3299 (May 19, 2010).

⁴GAO, *High-Risk Series: An Update*, [GAO-11-278](#) (Washington, D.C.: February 2011). In 1990, we began a program to report on government operations that we identified as “high risk.” Since then, generally coinciding with the start of each new Congress, GAO has reported on the status of progress to address high-risk areas and to update the High Risk List. Overall, GAO’s high-risk program has served to identify and help resolve serious weaknesses in areas that involve substantial resources and provide critical services to the public. Our experience with the high-risk series over the past 25 years has shown that the key elements needed to make progress in high-risk areas are top-level attention by the administration and agency leaders grounded in the five criteria for removal from the High Risk List, as well as any needed congressional action. The five criteria for removal are: (1) leadership commitment, (2) capacity, (3) action plan, (4) monitoring, and (5) demonstrated progress.

In February 2016, we reported that BSEE's ongoing organizational restructuring—which it initiated in October 2013 to develop national programs—had not addressed long-standing deficiencies to its investigative, environmental compliance, and enforcement capabilities.⁵ To enhance its ability to effectively oversee offshore oil and gas development, we recommended that the Secretary of the Interior direct the Director of BSEE to take nine actions, including that BSEE complete policies outlining the responsibilities of its investigative, environmental compliance, and enforcement programs and update and develop procedures to guide them. Interior neither agreed nor disagreed with our recommendations. Simultaneous to our assessment of BSEE's organizational restructuring, bureau leadership was developing its Fiscal Year 2016-2019 Strategic Plan, which identifies key initiatives to improve its safety and environmental oversight as well as its internal management. Some of these key strategic initiatives have been under way for several years.

In light of the concerns we identified during our review of BSEE's organizational restructuring, we initiated this review under the authority of the Comptroller General of the United States.⁶ This report examines efforts BSEE leadership has made in implementing key strategic initiatives to improve its (1) safety and environmental oversight and (2) internal management.⁷

To identify progress BSEE leadership has made in implementing key strategic initiatives to improve its (1) safety and environmental oversight and (2) internal management, we reviewed BSEE strategic planning and budget justification documentation as well as interviewed BSEE leadership to identify key bureau strategic initiatives. We then reviewed

⁵GAO, *Oil and Gas Management: Interior's Bureau of Safety and Environmental Enforcement Has Not Addressed Long-Standing Oversight Deficiencies*, [GAO-16-245](#) (Washington, D.C.: Feb. 10, 2016).

⁶Based on our February 2016 report regarding BSEE's oversight capabilities as well as ongoing work in support of this report, in February 2017, we expanded the High Risk List to incorporate the restructuring of offshore oil and gas oversight. See GAO, *High-Risk Series: Progress on Many High-Risk Areas, While Substantial Effort Needed on Others*, [GAO-17-317](#) (Washington, D.C.: Feb. 15, 2017).

⁷In August 2016, BSEE contracted with the National Academy of Public Administration (NAPA) for approximately \$450,000 to assess the bureau's progress in institutionalizing the systems, policies and process since its 2011 establishment and determine where areas of critical need remain to be addressed to ensure a functioning and sustainable organization. NAPA is scheduled to deliver its final report to BSEE in March 2017.

BSEE's strategic initiatives and focused on those that corresponded to our objectives and were topics that we have not reviewed in the last 2 years.⁸ For each initiative, we collected and analyzed BSEE documentation of their purpose and history—including budget justifications, project plans, and contracts, among others—to determine their objectives, time frames, and status. We also interviewed BSEE officials at headquarters responsible for bureau and program leadership as well as officials in the regional and district offices responsible for implementing BSEE oversight activities. For each initiative, we analyzed any progress made and compared BSEE practices for implementing its initiatives to bureau criteria—such as strategic plans and initiative goals—as well as Standards for Internal Control in the Federal Government.⁹

We conducted this performance audit from March 2016 to March 2017 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

BSEE's mission is to promote safety, protect the environment, and conserve resources offshore through vigorous regulatory oversight and enforcement. BSEE's headquarters—located in Washington, D.C., and Sterling, Virginia—is responsible for setting national program policy to meet the bureau's mission. BSEE's three regional offices—the Gulf of Mexico regional office in New Orleans, Louisiana; the Pacific regional office in Camarillo, California; and the Alaska regional office in Anchorage, Alaska—are responsible for executing oversight of oil and gas activities, such as conducting inspections of all facilities on the OCS. The five district offices that the Gulf of Mexico regional office oversees

⁸Within the past 2 years, GAO issued reports on several topics that could be considered BSEE key strategic initiatives, including its organizational restructuring ([GAO-16-245](#)), decommissioning (GAO, *Offshore Oil and Gas Resources: Actions Needed to Better Protect Against Billions of Dollars in Federal Exposure to Decommissioning Liabilities*, [GAO-16-40](#) (Washington, D.C.: Dec. 18, 2015)), and human capital challenges (GAO, *Oil and Gas Oversight: Interior Has Taken Steps to Address Staff Hiring, Retention, and Training but Needs a More Evaluative and Collaborative Approach*, [GAO-16-742](#) (Washington, D.C.: Sept. 29, 2016)).

⁹GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: September 2014).

are the Houma, Louisiana; Lake Jackson, Texas; Lafayette, Louisiana; Lake Charles, Louisiana; and New Orleans, Louisiana district offices.

The Outer Continental Shelf Lands Act of 1953, as amended, (OCSLA) requires Interior to inspect each offshore oil and gas facility at least once per year.¹⁰ OCSLA also authorizes Interior to conduct periodic unscheduled—unannounced—inspections of these facilities.¹¹ BSEE carries out these inspections on behalf of the Secretary throughout America's 1.7 billion acres of the OCS. BSEE's Office of Offshore Regulatory Programs is responsible for overseeing the bureau's national inspection program, which is carried out by the bureau's regional offices. During inspections, BSEE inspectors scrutinize all safety system components designed to prevent or ameliorate blowouts, fires, spillages, or other major accidents. Additionally, inspectors check for compliance with current plans, lease terms, and appropriate stipulations. During inspections, BSEE inspectors check for installation, operation, and maintenance of all appropriate safety and antipollution devices. They perform the inspections, in part, by using a checklist derived from regulated safety and environmental requirements. If an inspector identifies a regulatory violation at an offshore facility, BSEE issues a citation to the operator known as an incident of noncompliance (INC) in response to operator violations of safety or environmental standards. An INC may be issued in the form of (1) a warning, (2) an order to shut down a particular component of the facility (when it can be shut down without affecting the overall safety of the facility or operations), or (3) an order to shut down an entire drilling rig or production platform in cases when the violation could result in serious consequences to the environment or human health and safety, such as a fire or spill.¹² Operators generally

¹⁰43 U.S.C. § 1348(c)(1).

¹¹43 U.S.C. § 1348(c)(2).

¹²Interior's policy is to place operators with a history of poor performance on its increased oversight list, and inspect those operators more frequently until it determines that the operator's performance has improved. BSEE can also place an operator on a performance improvement plan due to serious incidents, poor performance data, criminal referral, civil penalties assessed, or uncorrected deficiencies resulting in a probationary status. A performance improvement plan may result in more inspections or more frequent inspections, which may result in an increase in INCs issued and civil penalties assessed. Operators may also be required to provide increased information, and have operator employees working during certain activities such as construction and simultaneous operations to facilitate communications.

have 20 days to correct the violation and notify Interior that the violation was corrected.¹³

BSEE is responsible for ensuring compliance with OCSLA and provisions of other federal laws, including the National Environmental Policy Act (NEPA).¹⁴ BSEE's Environmental Compliance Division establishes national strategic goals, programs, and procedures to increase the accuracy, effectiveness, and consistency of all bureau environmental compliance policies and initiatives. BSEE's Office of Environmental Compliance, located in the Gulf of Mexico regional office, is staffed by environmental engineers, scientists, and specialists who are responsible for BSEE's NEPA compliance program, as well as field and office environmental compliance verification.

We have previously reported on Interior's challenges with managing federal oil and gas resources. In September 2008 and July 2009,¹⁵ we found shortcomings in Interior's ability to ensure that royalty payment data were reasonable and complete. In addition, in March 2010,¹⁶ we found that Interior's policies and practices did not provide reasonable assurance that oil and gas produced from federal leases was being accurately measured and that Interior experienced challenges hiring, training, and retaining qualified staff to provide oversight and management of oil and gas operations on federal lands and waters. Further, we have reported that organizational transformations are not simple endeavors and require the concentrated efforts of both leaders and employees to realize intended synergies and accomplish new organizational goals. We were also concerned about Interior's ability to balance continued delivery of services with transformational activities in view of the department's history of management problems and challenges in the human capital area.

¹³30 C.F.R. § 250.1452.

¹⁴42 U.S.C. §§ 4321-4347. Under NEPA, federal agencies must assess the effects of major federal actions—those they propose to carry out or to permit—that significantly affect the environment.

¹⁵GAO, *Mineral Revenues: Data Management Problems and Reliance on Self-Reported Data for Compliance Efforts Put MMS Royalty Collections at Risk*, [GAO-08-893R](#) (Washington, D.C.: Sept. 12, 2008) and *Mineral Revenues: MMS Could Do More to Improve the Accuracy of Key Data Used to Collect and Verify Oil and Gas Royalties*, [GAO-09-549](#) (Washington, D.C.: July 15, 2009).

¹⁶GAO, *Oil and Gas Management: Interior's Oil and Gas Production Verification Efforts Do Not Provide Reasonable Assurance of Accurate Measurement Production Volumes*, [GAO-10-313](#) (Washington, D.C.: Mar. 15, 2010).

In December 2015, BSEE issued its Fiscal Year 2016–2019 Strategic Plan. BSEE’s strategic plan identifies strategic goals to improve its operations—including safety and environmental oversight—as well as its internal management. BSEE’s key strategic initiatives to improve safety and environmental oversight include developing a risk-based inspections program and promoting environmental stewardship. BSEE’s key strategic initiatives to improve its internal management include enhancing decision making as well as communication and transparency.

BSEE Leadership Has Started Several Initiatives to Improve the Bureau’s Safety and Environmental Oversight Capabilities but Its Actions Have Hindered Progress

BSEE leadership has started several initiatives to improve its safety and environmental oversight capabilities but its limited efforts to obtain and incorporate input from within the bureau have hindered its progress. Since 2012, BSEE has sought to augment its annual inspection program with a risk-based inspection program, but limited efforts to obtain and incorporate input from experienced regional personnel have hindered BSEE’s ability to develop and implement the risk-based program. Additionally, in 2016, BSEE conducted an environmental stewardship initiative comprised of two simultaneous environmental risk reduction efforts, but these efforts were overlapping, fragmented, and uncoordinated, which reduced the effectiveness of the initiative and hindered the implementation of identified improvements.

Limited Efforts to Obtain and Incorporate Input from Regional Personnel Hindered the Development and Implementation of Risk-Based Inspection Initiative

Since it was established as a separate bureau in 2011, BSEE leadership has continued an initiative begun by its predecessor to transition the bureau’s inspection program to a risk-based approach. In 2012, BSEE leadership started a new initiative that included the development of a risk model and an approach for inspecting production facilities based on the risk they pose. However, BSEE leadership’s limited efforts to obtain and incorporate input from regional staff and management during development of the program led to poor pilot results. As a result, BSEE has changed the focus of the program and reduced expectations for its initial approach to risk-based inspections.

BSEE Leadership Began a New Initiative to Develop a Risk-Based Inspection Program, but the Initial Approach Had Several Deficiencies

Interior's efforts to conduct oversight based on risk date back to the 1990s.¹⁷ In 1998, MMS, BSEE's predecessor organization, contracted for a study from Carnegie Mellon University to develop a model to target inspections of offshore facilities based on risk. MMS did not implement the model at the time because it was too complex, according to BSEE officials. In 2009, one year prior to the Deepwater Horizon incident and the dissolution of the MMS in 2010, the Gulf of Mexico Regional Office piloted a risk-based inspection strategy in the Houma, Louisiana and Lake Jackson, Texas districts that regional management recommended for immediate implementation. However, BSEE officials told us that the 2010 Deepwater Horizon incident and Interior's 2010 Safety and Environmental Management System (SEMS) regulation¹⁸ prompted the bureau to reconsider approaches to conducting risk-based inspections. Since 2011, when it was established as the successor to MMS, BSEE has highlighted in every Interior budget justification for the bureau its ongoing efforts to identify and increase oversight of the highest-risk facilities and operators. Additionally, BSEE affirmed its intentions in its 2016-2019 Strategic Plan to develop this risk-based inspection capability as part of its National Inspection Program.¹⁹

Beginning in 2012, BSEE began an initiative to develop an approach for conducting inspections of offshore facilities based on the level of risks they posed. Specifically, BSEE engaged Argonne National Laboratory (Argonne) to develop a quantitative model to serve as the foundation of

¹⁷For example, in the 1990s, the policy of MMS was to conduct inspections of safety devices using a risk-based sampling procedure.

¹⁸30 C.F.R. Part 250, subpart S. BSEE requires operators to have a SEMS program to identify, address, and manage safety, environmental hazards, and impacts during the design, construction, start-up, operation, inspection, and maintenance of all new and existing OCS facilities. The focus of the Safety and Environmental Management System program is on promoting an operator-driven system that continually improves safety culture and safety practices within the industry.

¹⁹BSEE's long-term transition to a risk-based approach to safety inspection aligns with a 2016 recommendation made by the National Research Council's Transportation Research Board in *Strengthening the Safety Culture of the Offshore Oil and Gas Industry* on October 1, 2016. Specifically, the Board recommended that BSEE make greater use of risk principles in determining inspection frequencies and methods, such that operators with good performance records are subject to less frequent or less details inspections. In addition, inspectors should consider shifting from traditional compliance inspections to inspections that follow the safety management approach outlined in the SEMS regulation.

BSEE's risk-based inspection capability.²⁰ The model ranks offshore production platforms according to five indicator factors:²¹ (1) whether the facility is a major complex,²² (2) whether the facility's slot count is 15 or greater,²³ (3) the number of inspections resulting in an INC in the previous year,²⁴ (4) whether the facility experienced an incident—such as an explosion, fire, fatality, or injury—in the previous year, and (5) whether the facility experienced an incident in the previous 2 years.²⁵ BSEE intended to use risk-based inspections to augment the required annual inspections by using the results of the Argonne model to identify facilities for supplemental multi-day inspections focusing on each facility's risk management strategies. According to 2015 BSEE documentation on its risk-based approach, the bureau planned to eventually shift inspection resources from lower-risk facilities to higher-risk facilities and transition the overall inspection program from annual compliance inspections to a risk-based approach to more effectively use BSEE's available inspection resources.²⁶

However, to date, BSEE has not successfully implemented this supplemental risk-based inspection capability in the 5 years since taking over the initiative from MMS. BSEE leadership led the development of the risk-based program; however, according to officials, leadership developed the program with little input from regional personnel. Officials in the Gulf of Mexico region with knowledge and experience conducting previous

²⁰Argonne is a Department of Energy laboratory in Illinois. To develop the formula, Argonne analyzed platform characteristics and past performance data to identify correlations with platform incidents. Argonne developed this model as part of an approximately \$16.5 million interagency agreement between BSEE and the Department of Energy that included other technical assistance projects.

²¹The model adds these factors together and multiplies the sum by the consequence factor, which is the number of components on the facility.

²²Argonne defined a major complex as a facility containing at least one major structure.

²³A facility's slot count is the total number of drilling slots that the facility was designed to handle. In Argonne's study, the count varied between a maximum of 83 and a minimum of zero.

²⁴BSEE can issue a notice of an INC in response to operator violations of safety or environmental standards.

²⁵Argonne defines risk as the likelihood of an incident occurring relative to the severity of its consequence.

²⁶Implementing an inspection program that does not include annual inspections would require a legislative change.

risk-based inspection efforts told us they were not apprised of key program products until those products were well under development and were given little opportunity to provide comment on them. As a result, BSEE first identified deficiencies with its risk-based program during pilot testing in 2015,²⁷ rather than working closely with experienced regional personnel earlier in the process to obtain their input to identify potential deficiencies and remediate them during program development. For example, BSEE identified deficiencies in three components of its proposed inspection program: (1) an underlying risk model for ranking all production platforms, (2) the annual inspection planning methodology, and (3) the facility-specific inspection protocol.

Risk Model. BSEE regional officials who have longstanding experience evaluating offshore risk told us that the model is not sophisticated enough to identify platforms for risk-based inspection planning, and that they could have identified its deficiencies earlier in the program development process. Specifically, they said that the model does not contain sufficient information to target facilities for additional risk-based inspections. For example, Argonne's model does not incorporate risk factors such as a facility's change in ownership status or operator bankruptcy—factors that BSEE regional officials told us can be correlated with higher risk, as operators tend to reduce expenditures on maintenance at these times. Additionally, the model does not account for the severity of incidents of noncompliance—for example, whether an incident results in shutting down a facility or a warning—or the quantity assessed—such as whether a facility was cited many times or once in a single inspection. Some BSEE regional officials considered these types of operator performance and risk-related intelligence to be as, or more, important for identifying high-risk facilities than the five factors assessed by the model.

BSEE headquarters worked directly with Argonne on the risk model, and although headquarters officials said they included regional personnel, they did not provide us with evidence of efforts they made to include those personnel or obtain their input on the risk model's initial development. BSEE headquarters officials told us that Argonne reached out periodically to senior regional personnel, but they did not specify when the laboratory conducted such outreach, what contributions regional personnel made, or whether regional personnel raised concerns during Argonne's outreach. Conversely, BSEE

²⁷ Although the bureau initially intended to conduct pilots in fiscal year 2014, BSEE officials told us they instead spent September 2013 to February 2015 testing Argonne's model.

regional personnel told us that BSEE headquarters did not inform them of the development of a risk model or ask them for input leading up to the pilot.

Inspection Planning Methodology. In 2015, BSEE outlined an inspection planning methodology founded on Argonne's quantitative risk model that describes how BSEE would target and plan supplemental safety inspections for offshore production platforms. BSEE's inspection planning methodology prescribes the use of two additional categories of information, alongside Argonne's model, to select production platforms for supplemental risk-based inspections. Specifically, it states that BSEE would use the model's ranking to identify the 20 percent of platforms that pose the highest risk. BSEE would then consider information on operator performance—reported hydrocarbon releases, number of incidents of noncompliance assessed in each category, and the quality of SEMS audit reports—and other risk-related intelligence—including proximity to shore, production rates, and inspector assessment of overall safety—to further narrow the selection of high-risk facilities.

BSEE planned to test its inspection planning methodology by selecting and conducting five pilot inspections in late 2015 and early 2016. According to BSEE's program deployment and implementation plan, the bureau applied Argonne's model to identify the pilot inspections in the Lafayette district.²⁸ However, although BSEE's inspection planning methodology prescribed the incorporation of additional information on operator performance and other risk-related intelligence in its selection of pilot facilities, a BSEE regional official told us that during the Risk Based Oversight Team's discussions, BSEE leadership relied heavily on the risk model alone. Furthermore, although regional personnel participated on the Risk Based Oversight Team when it selected the pilots, a regional official told us they were largely sidelined during the discussions. As a result, regional officials told us the pilot selections were not among the highest risk facilities. For example, three of the top five facilities BSEE selected were idle and not producing and therefore were not inspected as part of the pilot. By going against BSEE's inspection planning methodology, BSEE leadership appears to have excluded the input of regional personnel, undercutting the pilot effort and raising questions about

²⁸BSEE officials told us they selected Lafayette, Louisiana due to the availability of inspector resources and the diversity of operators and facilities in that district that were representative of the region. They said that they determined that a pilot in one district would allow BSEE to better train staff and develop the inspection protocols.

whether the bureau's leadership has the commitment necessary to enable the successful implementation of its risk-based program.

Inspection Protocol. BSEE's inspection planning methodology also specified that the Risk-Based Oversight Team should develop an inspection protocol in advance of conducting risk-based inspections that is tailored to each facility and describes the roles and responsibilities of personnel, including what components and safety systems will be reviewed or tested. Additionally, BSEE's program methodology describes the protocol for deliverables and the dissemination of the inspection results.²⁹

However, BSEE did not establish a clear pilot inspection protocol for the inspection team and operator for the first pilot, which led to confusion for BSEE personnel and the operator. Specifically, BSEE officials involved in the inspection told us that headquarters did not inform inspection team members of their responsibilities, resulting in ineffective use of time. In turn, for the second pilot inspection, BSEE officials told us that BSEE leadership asked regional personnel to develop the inspection protocol. Officials told us that the second pilot inspection was an improvement over the first because personnel were better prepared to carry out their responsibilities. However, officials said the inspection proved to be more time consuming than BSEE expected, particularly when compared to the time required to conduct a typical annual inspection. Specifically, according to one official, the inspection team needed between 500 and 600 total work hours to complete the pilot inspection, in part due to the time required in developing a facility-specific protocol. For comparison, the official told us that a typical annual inspection of a deep water platform requires about 100 total work hours. In addition, the official told us that annual inspections are a more comprehensive review of a facility's safety systems because inspectors test and validate all necessary components, whereas a risk-based inspection considers only specific aspects of safety performance culture. Therefore, it is not clear whether risk-based inspections, as performed during the pilot, have proven to be a more effective method for evaluating safety relative to annual inspections.

Additionally, BSEE's inspection planning methodology prescribes that the Risk-Based Oversight Team provide final pilot reports to the

²⁹According to BSEE's program documentation, the Risk-Based Oversight Team is composed of representatives from BSEE's Office of Offshore Regulatory Programs, and Gulf of Mexico regional and district level staff.

operators of the facilities at the earliest opportunity. However, according to officials, BSEE did not provide the operator of the first pilot facility with a report of its findings. Similarly, they said BSEE did not provide a report to the operator of the second pilot facility, only a verbal debrief until the operator requested a report through BSEE's regional office. Because BSEE did not provide formal reports to operators included in the both pilots in a timely manner, a BSEE debrief noted that one of the operators was confused about the final results of the inspection. The purpose of the risk-based inspection initiative is to provide operators with the opportunity to address issues and improve their safety management systems, for which they need timely access to inspection results.

BSEE headquarters led the development of the inspection planning methodology and the facility-specific inspection protocol without obtaining and incorporating input from regional personnel who had knowledge and experience conducting risk-based inspection efforts. The Gulf of Mexico region was to evaluate risk routinely when planning inspections since at least the year 2000, because BSEE's inspection policy stipulates that the region is to conduct supplemental unannounced inspections based on a quantitative and qualitative assessment of risk.³⁰ In addition, BSEE's inspection policy states that the bureau is to evaluate quantitative and qualitative risk assessment criteria to determine whether a facility's annual scheduled inspection should be a complete inspection or an inspection of a selected sample of safety components. Furthermore, personnel from that region conducted a risk-based inspection pilot in 2009 in the Houma, Louisiana, and Lake Jackson, Texas, districts that regional management recommended for immediate implementation.³¹ Nevertheless, regional officials who had knowledge of the 2009 pilot

³⁰According to BSEE officials, the Gulf of Mexico region conducted 541 unannounced inspections in fiscal year 2016, as of August 2016.

³¹According to officials, prior to the *Deepwater Horizon* incident, MMS had difficulty meeting the annual inspection mandate as laid out in OCSLA because of the small size of the inspection force relative to the facilities operating offshore. Over the years, various attempts were made to ensure that MMS successfully met its annual mandate of inspecting every facility at least once annually. One of these efforts involved only inspecting a set of predetermined mandatory components, as well as a representative sample of other components. The goal of the 2009 risk-based pilot was to identify the lowest risk facilities (e.g., small unmanned platforms, shut-in platforms, low gas producers) for which a full inspection would not be required so that very limited resources could be diverted to higher-risk facilities. Eventually, Interior's Office of the Solicitor determined that inspections using the component sampling technique would not suffice to meet the OCSLA mandate.

said that BSEE headquarters led and developed the first facility-specific inspection protocol without their input.

According to officials, BSEE headquarters proceeded with pilot inspections before regional personnel had the opportunity to raise concerns about the risk model, the inspection planning methodology, and the facility-specific inspection protocol. As a result of these deficiencies, officials involved in the first pilot inspection described it as a failure that produced few, if any, results. Only after the first pilot did BSEE leadership begin to engage regional personnel and incorporate their input on the program, according to officials. In response to the deficiencies BSEE identified during the first two risk-based pilot inspections, in July 2016, BSEE revised the risk-based inspection program based on a proposal that regional personnel told us they developed, which incorporates a risk-based methodology that they had previously used in the Gulf of Mexico. Specifically, to supplement the facility-based approach that BSEE leadership had been developing since 2012 based on Argonne's risk model, BSEE regional personnel proposed reconstituting an inspection methodology that MMS used prior to the Deepwater Horizon incident called "blitz" inspections. Blitz inspections focus on specific facility components—such as compressors, generators, or cranes—that the bureau determines are high-risk based on analyses of trends in incidents. Officials told us that they added this tier of inspections because it allowed them to target risk across more facilities in less time than is required for comprehensive risk-based facility inspections. Specifically, BSEE intends for a typical round of blitz inspections to encompass approximately 50 facilities for 2 to 3 hours each. Under the initial program methodology developed by BSEE leadership, BSEE stated that it would be able to use the facility-based methodology as a systematic way of deciding where to commit annual inspection resources. However, officials said the bureau now anticipates using the risk-based methodology to target no more than five facilities per year, instead of the more than 20 per year officials originally estimated. Instead, BSEE's revised program methodology will use both blitz inspections and facility-based inspections based on Argonne's model. BSEE's current plans are to conduct additional pilots under the revised program methodology prior to implementation in fiscal year 2017.

Limited Efforts to Obtain and Incorporate Input Hindered BSEE's Ability to Identify and Remediate Deficiencies in Its Risk-Based Inspection Program

In July 2003, we found that when implementing large-scale management initiatives, a key practice is involving employees to obtain their ideas and gain their ownership by incorporating employee feedback into new policies and procedures.³² We found that employee involvement strengthens the process and allows them to share their experiences and shape policies, and that in leading organizations, management and employee representatives work collaboratively to gain ownership for these changes. Further, management's responsibility to develop policy and programs in a collaborative manner is established in both BSEE's internal policy and federal internal control standards. BSEE's inspection policy states that headquarters is responsible for coordinating the development of national inspection policy, including taking into account region-specific circumstances. BSEE regional leadership is responsible for administering and implementing the inspection policy; therefore, logically, regional leadership would be a key contributor to helping develop BSEE inspection policy. In addition, under the Standards for Internal Control in the Federal Government, management should internally communicate the necessary quality information to achieve its objectives.³³ For example, quality information is communicated down, across, up, and around reporting lines to all levels of the entity, and management receives such information about the entity's operational processes that flows up the reporting lines from personnel to help management achieve the entity's objectives. Therefore, systematic input from within the entity would help it achieve its objectives.

However, BSEE management made limited efforts to obtain and incorporate input from regional personnel in developing the three components of the risk-based inspection program, which contributed to deficiencies that led to an unsuccessful pilot, and ultimately, BSEE has been unable to achieve its goal of implementing a systematic risk-based inspection program. Without an Interior organizational unit at a higher level than BSEE (i.e., higher level oversight independent from BSEE) establishing a mechanism for BSEE management to obtain and incorporate input from personnel within the bureau, BSEE's risk-based inspection program could experience continued delays and implementation problems.

³²GAO, *Results-Oriented Cultures: Implementation Steps to Assist Mergers and Organizational Transformations*, [GAO-03-669](#) (Washington, D.C.: July 2, 2003).

³³[GAO-14-704G](#).

Coordination Problems Hindered BSEE's Environmental Stewardship Efforts

BSEE leadership initiated two simultaneous Environmental Stewardship efforts to reduce environmental risks related to U.S. offshore oil and gas operations, but the efforts were partially overlapping, fragmented, and uncoordinated, which reduced the value of the outputs. In 2015, BSEE leadership sought to establish a baseline for environmental risks associated with U.S. offshore oil and gas operations and measure the effectiveness of its environmental protection functions and environmental stewardship priorities to better implement BSEE's mission. These efforts included (1) identifying potential environmental risks associated with offshore oil and gas operations; (2) identifying current BSEE functions meant to regulate and manage those risks; (3) linking BSEE environmental stewardship priorities to specific industry activities and associated risks; and (4) identifying potential environmental stewardship gaps where BSEE functions might not be fully addressing industry activities with high environmental risk. These efforts were led and coordinated by BSEE leadership in the Environmental Compliance Division at headquarters, which BSEE created in 2015 to establish national strategic goals and procedures for the bureau's environmental compliance activities.³⁴

As part of the Environmental Stewardship initiative, BSEE conducted two environmental risk reduction efforts. Specifically, in December 2015, BSEE headquarters engaged Argonne to conduct an Environmental Risk Assessment, and in February 2016, established an internal Environmental Stewardship Collaboration Core Group (Core Group) comprised of BSEE personnel.³⁵ In July 2016, both Argonne and the Core Group produced final reports summarizing their findings. Both reports found that some of BSEE's activities, such as those focused on safety oversight, were not clearly linked to environmental stewardship. Additionally, Argonne also reported that some environmental protection and stewardship activities are not described in sufficient detail in BSEE regulations, policies, and interagency agreements. Argonne recommended that BSEE clarify functions that primarily focus on safety to explicitly identify environmental protection as an aspect of safe operations. Likewise, the Core Group found that some programs'

³⁴BSEE also identified environmental stewardship as one of its operational excellence goals in its *Fiscal Year 2016-2019 Strategic Plan*.

³⁵BSEE funded Argonne's effort via an interagency agreement with the Department of Energy for approximately \$600,000.

relationships to environmental stewardship might not always be readily apparent to program staff or more broadly within BSEE.

The efforts were overlapping because BSEE leadership tasked both Argonne and the Core Group with the same five objectives to identify: (1) linkages and gaps in BSEE's environmental stewardship of offshore oil and gas operations, (2) all environmental risks in offshore oil and gas operations, (3) mitigations already in place to reduce the identified environmental risks, (4) stewardship priorities for the Environmental Compliance Division; and (5) opportunities for improvement of BSEE environmental stewardship.

However, the efforts were also fragmented because BSEE leadership did not effectively coordinate the execution of these efforts, which hindered information sharing between Argonne and the Core Group that could have enhanced the value of each effort's report. Instead, both efforts were executed simultaneously with little evidence of information sharing or communication. For example, Argonne presented its work at the Core Group's initial meeting in February 2016; however, at that time, Argonne had not yet completed the majority of its contracted tasks. BSEE officials involved in the Core Group also told us that Argonne did not contribute to the Core Group activities throughout the effort. According to BSEE officials, Argonne's findings were added to the Core Group report by bureau leadership following the completion of the Core Group's assessment and without discussion or assessment by Core Group team members. Similarly, some officials involved in the Core Group said that BSEE headquarters did not communicate the objectives of the Argonne effort, thereby limiting the ability of the Core Group to coordinate with Argonne to maximize its results.

Furthermore, Argonne did not have access to bureau information and personnel that could have enhanced its efforts. Argonne's report stated that BSEE regional experts had information and technical knowledge that could be used to review their assumptions and to identify additional industry activities for analysis. Argonne also stated that it may have over- or underestimated potential risks, and did not determine the effectiveness of BSEE's environmental stewardship activities.³⁶ In turn, Argonne

³⁶Argonne's report stated that identification of possible stewardship gaps does not necessarily mean that the associated environmental impacts are occurring or are not sufficiently limited or mitigated by current BSEE environmental protection and stewardship activities. The Statement of Work did not specify whether BSEE asked Argonne to determine the effectiveness of the bureau's activities.

recommended BSEE regional subject matter experts review its analysis regarding the assumptions used in the risk evaluation and repeat the risk characterization using parameters that regional experts determine to be more appropriate. Because Argonne was aware of the limitations of its assessments, Argonne recommended that BSEE regional experts redo and validate these assessments. In addition to its report, Argonne provided the bureau with a spreadsheet-based risk assessment tool for BSEE to use during office verification and field monitoring. However, given Argonne's concern about the accuracy of its analysis, BSEE plans to review and verify Argonne's work.

In addition to its report, the Core Group established a bureau-wide definition for environmental stewardship and BSEE leadership drafted three work plans. The work plans include one plan to promote environmental stewardship on a continuous basis,³⁷ one work plan to redo Argonne's analysis, and another to create a manual with environmental compliance standard operating procedures for several of its core functions. BSEE anticipates that this work will be ready for management review in January 2017.

BSEE headquarters was responsible for coordinating with Argonne officials to ensure they had access to BSEE subject matter experts during the assessment, especially for the risk characterization and ranking task. Because effective coordination did not occur, the resources used to do these two simultaneous analyses were not used efficiently. BSEE's National Environmental Compliance Policy calls for coordination within the bureau when developing national policies and procedures. When BSEE initiated these efforts, bureau policy stated that communication and coordination within the Bureau and with external stakeholders is an essential component of success for its environmental division. In April 2016, BSEE updated its national policy but maintained an emphasis on good coordination across the bureau. Specifically, the current policy states that the Environmental Compliance Division collaborates within the bureau on national efforts to develop goals and policies. Furthermore, communication is an element of good federal internal controls. Under the Standards for Internal Control in the Federal Government management should internally and externally communicate the necessary quality

³⁷The Core Group defined environmental stewardship as the responsibility of all BSEE employees to carry out to the highest standards all duties that contribute, directly or indirectly, to the management, protection and care of the coastal, marine, and human environments.

information to achieve the entity's objectives.³⁸ Because BSEE management tasked both environmental risk response efforts with the same objectives and did not effectively communicate information to coordinate the efforts, the efforts overlapped and ultimately delivered few results that BSEE can implement immediately. Without higher level oversight within Interior establishing a mechanism for BSEE management to obtain and incorporate input from personnel within the bureau and any external parties, such as Argonne, that can affect the bureau's ability to achieve its objectives, BSEE's Environmental Stewardship efforts are likely to experience continued implementation and efficacy problems.

BSEE Leadership Has Made Limited Progress in Implementing Strategic Initiatives to Improve Its Internal Management

Since 2013, BSEE began four strategic initiatives to improve its internal management, but their successful implementation has been hindered by limited leadership commitment and not addressing factors contributing to trust concerns. In 2013 and 2014, BSEE leadership began initiatives—development of an enterprise risk management framework and performance measures, respectively—to improve its decision making capabilities—but has not fully implemented them. By not fully implementing internal management initiatives, BSEE management demonstrates limited leadership commitment. In 2016, BSEE conducted initiatives—an employee engagement effort and an assessment of its Integrity and Professional Responsibility Advisor—to enhance communication and transparency, but these do not address key factors that contribute to long-standing trust concerns within the bureau.

BSEE Leadership Began Initiatives to Improve Bureau Internal Management Capabilities but Has Not Fully Implemented Them

BSEE leadership began initiatives to improve bureau internal management capabilities but has not fully implemented them. In 2013, BSEE began an initiative to develop an ERM framework but has not fully implemented it as a management tool. In 2014, BSEE began an initiative to develop performance measures for its programs but has not implemented any measures.

BSEE Has Not Fully Implemented Its Enterprise Risk Management Framework

BSEE has made some progress over the past 3 years in implementing an ERM framework but has not completed the actions necessary to fully implement it. In 2013, BSEE began an initiative to develop and implement

³⁸ [GAO-14-704G](#).

an ERM framework to provide enduring management of internal and external risks that threaten achievement of BSEE's mission. The Office of Management and Budget defines ERM as an effective agency-wide approach to addressing the full spectrum of the organization's risks by understanding the combined impacts of risks as an interrelated portfolio, rather than addressing risks only within silos (i.e., viewing problems in isolation).³⁹ BSEE's Fiscal Year 2016-2019 Strategic Plan identifies the integration of enterprise risk management into bureau-wide decision making as a key initiative to meet BSEE's strategic goal to enhance decision making through the collection, management, and analysis of high-quality information.⁴⁰ In conjunction with a contracted ERM support consultant, BSEE developed an iterative ERM cycle that includes six steps: (1) establish an ERM program, (2) identify individual risks and group them into strategic risks, (3) prioritize risks, (4) develop risk treatments, (5) implement selected risk treatments, and (6) monitor performance.⁴¹

BSEE completed the first three of these six steps in its iterative ERM cycle. BSEE officials told us that they had taken actions on the other three steps. Specifically:

1. Establish an ERM program: BSEE established an ERM charter in 2014 and drafted an ERM Handbook and Bureau Manual Chapter to guide ERM activities in April 2016 but has not finalized or distributed them throughout the bureau.
2. Identify individual risks and group them into strategic risks: In 2014, BSEE identified 12 strategic risks that cover the lifecycle of BSEE operations.
3. Prioritize risks: In 2014, the bureau prioritized its strategic risks, according to BSEE ERM planning documentation. BSEE assessed

³⁹Office of Management and Budget, Cir. No. A-11, at § 270.24. In addition, the Office of Management and Budget issued new policy for agency implementation of Enterprise Risk Management in July 2016. Office of Management and Budget, Cir. No. A-123.

⁴⁰BSEE's fiscal year 2016 and 2017 Budget justifications highlighted its ERM initiative as key to implementing its strategic plan.

⁴¹Since 2013, BSEE has spent approximately \$1.5 million on contracted consultant support to develop and implement its ERM framework.

each strategic risk by evaluating the potential severity and likelihood of a failure event occurring and ranked them based on the results.⁴²

4. Develop risk treatments: BSEE planned to verify the prioritization of its top several strategic risk treatments by July 2016 but did not do so. BSEE officials told us that the bureau halted ERM implementation while it acquired automated ERM software. However, in November 2016, BSEE determined that it would reinstate ERM implementation simultaneous to the implementation of software. BSEE now plans to complete evaluation of risk treatments in March 2017.
5. Implement selected risk treatments: BSEE planned to finalize a plan for its prioritized risk treatments by August 2016 but did not do so because of the aforementioned temporary halt to ERM implementation. BSEE officials told us that the bureau has implemented some risk treatments. BSEE now plans to finalize its risk treatment plan in March 2017.
6. Monitor performance: BSEE plans to begin monitoring the performance of its risk treatments following their implementation. BSEE intended to promulgate a monitoring plan by October 2016 but did not do so because of the aforementioned temporary halt to ERM implementation. BSEE now plans to complete its monitoring plan in March 2017.

As part of its ERM initiative, BSEE is assessing the risks posed by its relationships with other agencies. BSEE's Fiscal Year 2016-2019 Strategic Plan identified reviewing the efficacy and implementation of current interagency relationships as a key initiative to support its strategic goal of maintaining productive relationships with external entities.⁴³ In 2015, BSEE's ERM support consultant assessed existing interagency relationships by prioritizing the 35 known memorandums of agreement, understanding, and collaboration based on the risk exposure they pose to the bureau. Of these 35 interagency memorandums, BSEE's consultant determined that 11 created a significant or moderate increase in risk exposure to the bureau. For example, the consultant determined that a

⁴²BSEE's assessment of severity is based on four factors: (1) number of deaths, (2) barrels of oil spilled, (3) dollar value of economic damage, and (4) impact to internal bureau structure. BSEE's assessment of likelihood is based on the frequency of occurrence over a given time period.

⁴³Other BSEE efforts also recommended updating the bureau's interagency relationships. A 2013 internal BSEE internal evaluation recommended improvements to relationships with other agencies. Brian Salerno, *Building Stronger Connections: An independent look at BSSE's [sic] interagency partnerships and their regulatory effectiveness* (July 5, 2013).

memorandum of understanding with BOEM to carry out assigned responsibilities under the agreement between the U.S. and Mexico concerning transboundary hydrocarbon reservoirs in the Gulf of Mexico created the greatest risk exposure to BSEE. BSEE has developed a plan to update one of these agreements but has not developed any specific plans to complete revisions for the other 10.⁴⁴

In 2016, BSEE began developing a systematic process for lifecycle management of interagency agreements and to improve the bureau's awareness of existing agreements and their implementation status, among other things. For example, BSEE has developed four criteria for prioritizing interagency agreements in need of update. BSEE also identified additional interagency agreements not identified by the bureau's ERM consultant. BSEE planned to assess and prioritize the risks posed by these newly discovered agreements by October 2016, but the bureau now plans to do so in March 2017. BSEE also plans to implement a bureau manual chapter and handbook that outlines a lifecycle interagency agreement management process in June 2017.

BSEE Has Not Implemented Program Performance Measures

Since 2012, BSEE has highlighted the need to develop and implement performance measures to inform management decision making. Specifically, BSEE's October 2012 Strategic Plan - Fiscal Years 2012-2015 stated that the bureau must develop performance measures to assess the results of its programmatic efforts as well as its ability to reduce the risks of environmental damage and accidents. Additionally, the October 2013 Director's Intent message—which outlined the BSEE Director's multi-year priorities—reaffirmed this need, stating that BSEE must measure to make informed management decisions and that to do so it must set key performance targets and measures, consistent with its strategic plan, and use them to guide its actions and decisions.⁴⁵

BSEE's initiative to develop performance measures has been comprised of three sequential efforts, none of which have resulted in the implementation of performance measures. In July 2014, the bureau initiated the first of three formal efforts to develop performance measures. Specifically, BSEE contracted with a consultant to reassess its existing

⁴⁴BSEE plans to complete implementations of its updated memorandum of understanding with the Environmental Protection Agency by the end of March 2017.

⁴⁵Each of BSEE's last four annual budget justifications—fiscal years 2014 through 2017—highlighted ongoing efforts to develop performance measures to improve program performance.

performance management system and update it as needed to ensure managers can make informed data-driven decisions.⁴⁶ However, BSEE terminated the contract in January 2015 because, according to BSEE officials, leadership determined that the bureau needed to complete its ongoing internal organizational restructuring prior to developing programmatic performance measures.⁴⁷

In December 2015, BSEE began its second effort, using the same consultant under a separate contract to develop performance measures for the national programs it established during its organizational restructuring—investigations, environmental compliance, and enforcement, as well as its Integrity and Professional Responsibility Advisor (IPRA).⁴⁸ Specifically, the contract stipulated that the consultant analyze program objectives and components, develop potential performance measures, identify data sources and data collection requirements, and coordinate with BSEE officials to establish objectives for each measure. In March 2016, the consultant delivered a report to BSEE that identified 12 performance measures—5 for investigations, 3 for environmental compliance, 2 for enforcement, and 2 for the IPRA.⁴⁹ However, BSEE headquarters officials told us that they are not implementing the measures and plans developed by the consultant due to a variety of factors, such as data availability limitations. For example, one proposed measure included a methodology to assess the effectiveness of issuing civil penalties to operators for safety or environmental infractions as a deterrent to committing future infractions. However, BSEE headquarters officials stated that the bureau does not issue enough civil penalties to conduct such an assessment—that is, the universe of available data to assess is too small. BSEE headquarters officials told us that the bureau did not implement the consultant-developed measures,

⁴⁶The total value of this contract, including all options, was approximately \$875,000.

⁴⁷BSEE paid the consultant approximately \$195,000 prior to its termination.

⁴⁸BSEE's fiscal year 2016 and 2017 budget justifications state that one of the goals of the bureau's organizational restructuring was to develop performance measures for major program functional areas. Developing performance measures for the established national programs was part of a contract to provide support services for an organizational restructuring. The total value of the contract was approximately \$1.23 million, of which \$43,500 was designated for the development of performance measures.

⁴⁹Some measures were classified as "informational" because they do not include performance targets and were developed to provide insight into programmatic function and establish baseline data on activities.

but rather that those measures are informing BSEE's third effort to develop performance measures.

In 2016, BSEE initiated a third effort to develop performance measures by providing a framework for considering performance management. Specifically, in January 2016—simultaneous to the aforementioned consultant's performance measure development effort—BSEE finalized a fiscal year 2016 work plan for the implementation of a revised performance management framework to include the identification of performance measures to help leadership gauge progress against the bureau's strategic plan.⁵⁰ BSEE headquarters officials told us that this initiative, which is being conducted internally by BSEE personnel, represents the beginning of a multi-year effort to implement a performance management system. BSEE initially planned to finalize its internally-developed list of performance measures in February 2016, but did not meet this deadline. Additionally, BSEE headquarters officials told us that in June 2016, the bureau narrowed the scope of the initiative from a comprehensive set of performance measures to no more than three performances measures per program. These officials explained that this was a more feasible scope given the difficulties in obtaining management commitment as well as the technical complexity of the initiative. As of August 2016, BSEE had developed 17 draft performance measures, but bureau leadership has repeatedly missed deadlines to review them. BSEE headquarters officials told us that, subsequent to leadership approval, the bureau plans to pilot these measures and develop others in upcoming years. In December 2016, BSEE completed a fiscal year 2016 Baseline Performance Measure Report that discusses these 17 measures and the bureau's plans for future iterations of their development.

By Not Fully Implementing Internal Management Initiatives, BSEE Management Demonstrates Limited Leadership Commitment

We have previously reported on BSEE's struggles to effectively implement internal management initiatives. Specifically, in February 2016, we found that since its inception in 2011, BSEE had made limited progress in enhancing the bureau's investigative, environmental compliance, and enforcement capabilities.⁵¹ More than 2 years into its restructuring effort—and more than 5 years after the Deepwater Horizon incident—the bureau had not completed the underlying policies and

⁵⁰BSEE contracted with its restructuring support consultant to compile the bureau's 23 fiscal year 2016 program work plans in a February 2016 report for \$64,000.

⁵¹[GAO-16-245](#).

procedures to facilitate the implementation of its national programs for these three capabilities. Moreover, we found that BSEE continues to face deficiencies in each of these capabilities that undermine its ability to effectively oversee offshore oil and gas development. As a result, among other things, we recommended that Interior direct BSEE to complete the policies and procedures for these three capabilities. Interior agreed that additional reforms—such as documented policies and procedures—are needed to address offshore oil and gas oversight deficiencies, but Interior neither agreed nor disagreed with our recommendation.

Likewise, with regard to its ongoing strategic initiatives, more than 3 years have passed since BSEE initiated the development of its ERM framework, and more than 2 years have passed since BSEE prioritized the strategic risks it faces. However, BSEE has yet to develop, implement, and monitor risk treatments to even the highest priority risks. Moreover, more than 4 years have passed since BSEE identified the development and implementation of performance measures as an organizational need. In that time, BSEE initiated several efforts to develop and implement such measures, and although BSEE has developed measures, it has yet to fully implement any.

In our 2013 High-Risk update, because progress had been made in one of the three segments we identified in Interior's Management of Federal Oil and Gas Resources on our 2011 High-Risk List—reorganization of its oversight of offshore oil and gas activities—we narrowed the scope of the high-risk area to focus on the remaining two segments (revenue collection and human capital).⁵² One of our five criteria for assessing whether an area can be removed from our high-risk list is leadership commitment—that is, demonstrated strong commitment and top leadership support.⁵³ An example of leadership commitment is continuing oversight and accountability. In our 2015 High-Risk update, we determined that Interior had met our criteria for leadership commitment because Interior had implemented a number of strategies and corrective measures to help ensure the department collects its share of revenue from oil and gas produced on federal lands and waters and was developing a comprehensive approach to address its ongoing human capital challenges. However, BSEE leadership has not demonstrated continuing

⁵²[GAO-13-283](#).

⁵³The five criteria for removal are (1) leadership commitment, (2) agency capacity, (3) an action plan, (4) monitoring efforts, and (5) demonstrated progress. [GAO-15-290](#).

oversight and accountability for implementing internal management initiatives, as evidenced by its limited progress implementing key strategic initiatives as well as its inability to address long-standing oversight deficiencies. BSEE leadership has consistently stated that it prioritized internal management initiatives by citing their importance in strategic plans and budget justifications. For example, BSEE's fiscal year 2017 budget justification states that three key initiatives will inform the implementation of the bureau's Fiscal Year 2016-2019 Strategic Plan: (1) refinement of a comprehensive set of output and outcome based performance measures; (2) implementation of an ERM framework to facilitate information sharing and identify the risk relationships among and within programs; and (3) implementation of its national program manager model to ensure consistency across regions. According to the budget justification, these initiatives support both effective decision making and assessment of BSEE's progress in meeting its priorities. However, BSEE leadership has not fully implemented actions to demonstrate the commitment necessary to enable the successful implementation of such initiatives. Without higher-level oversight within Interior addressing leadership commitment deficiencies within BSEE—including by implementing internal management initiatives and ongoing strategic initiatives (e.g., ERM and performance measure initiatives)—in a timely manner, the bureau is unlikely to succeed in implementing internal management initiatives, including its key strategic initiatives for ERM and performance measures, in a timely manner.

BSEE Employee Engagement Initiative and IPRA Process Assessment Have Not Addressed Factors Contributing to Long-Standing Trust Concerns between Headquarters and the Regions

In 2016, BSEE conducted two initiatives—one on employee engagement and an assessment of its IPRA—to enhance communication and transparency, but these initiatives have not achieved results or addressed factors that contribute to trust concerns within the bureau.

BSEE Has Not Developed an Employee Engagement Strategy

BSEE's Fiscal Year 2016-2019 Strategic Plan discusses improving employee engagement—generally defined as the sense of purpose and commitment employees feel toward their employer and its mission—to foster a culture of collaboration within BSEE by, among other things,

enhancing trust and implementing an internal communications approach that encourages dialogue and sets expectations for sharing accurate and timely information. A 2015 bureau strategic planning summary document stated that there is a lack of trust and respect between and among headquarters, regions, and the districts. Additionally, a 2013 BSEE internal evaluation found that some outside the bureau commented that BSEE does not appear to trust its own personnel.⁵⁴ We have previously found that communication from management—as reflected by employee responses in the Federal Employee Viewpoint Survey⁵⁵—is one of the six strongest drivers of employee engagement.⁵⁶ BSEE Federal Employee Viewpoint Survey data for 2013, 2014, and 2015 indicate that approximately one-third of BSEE respondents were not satisfied with information received from management regarding organizational activities (32.9, 31.1, and 32.9 percent, respectively).⁵⁷ Likewise, less than half were satisfied with information received from management regarding organizational activities (41.7, 46.1, and 43.7 percent, respectively).⁵⁸

According to some BSEE officials from across the bureau, the need to improve trust and communication are interconnected. Some senior BSEE officials throughout the organization told us that poor communication from headquarters has exacerbated trust issues between headquarters and the regions (including districts) that have existed since the 2010 Deepwater Horizon incident. As previously discussed, BSEE leadership's safety and environmental stewardship initiatives have had limited success, largely due to poor communication and coordination between headquarters and the regions. BSEE officials from across the bureau told us that the poor communication between headquarters and the regions

⁵⁴Brian Salerno, *Building Stronger Connections: An independent look at BSEE's [sic] interagency partnerships and their regulatory effectiveness* (July 5, 2013).

⁵⁵The Federal Employee Viewpoint Survey is a tool that measures employees' perceptions of whether, and to what extent, conditions characterizing successful organizations are present in their agencies. Survey results provide valuable insight into the challenges agency leaders face in ensuring the federal government has an effective civilian workforce and how well they are responding.

⁵⁶GAO, *Federal Workforce: Additional Analysis and Sharing of Promising Practices Could Improve Employee Engagement and Performance*, [GAO-15-585](#) (Washington, D.C.: July 14, 2015).

⁵⁷The government-wide averages during fiscal years 2013 through 2015 were 28.5, 29.9, and 29.2 percent, respectively.

⁵⁸The government-wide averages during fiscal years 2013 through 2015 were 47.6, 45.6, and 46.8 percent, respectively.

led to a deficit of trust vertically throughout the bureau. They also told us that because BSEE headquarters was newly established as part of the reorganization of MMS in 2010 following the Deepwater Horizon incident, there were not many existing relationships between headquarters and regional personnel. BSEE regional officials told us of specific examples in which BSEE headquarters did not communicate certain information to the regions, which has exacerbated the existing trust concerns, including the following examples:

- BSEE leadership reorganized its Pacific region with a structure that does not align directly with the bureau's national program manager model and did not communicate the reasons why. One of the guiding principles of BSEE's organizational restructuring was consistency, but limited communication regarding BSEE's reorganization of its regions led some to believe that BSEE headquarters was not abiding by this principle. According to senior BSEE officials, the bureau restructured the Pacific Region—which includes 42 permanent full time equivalent positions—due to management problems with some personnel. They told us that to maintain an appearance of impartiality during the reorganization of the Pacific Region, BSEE contracted with a consultant to recommend a new organizational structure.⁵⁹ In turn, the consultant recommended changes to address a lack of leadership and ineffective communication in the region, which BSEE officials told us influenced the new regional structure. However, this new structure does not include offices that correspond to the new national programs established during BSEE's organizational restructuring—investigations, environmental compliance, and enforcement. BSEE leadership officials told us that the small relative size of the Pacific Region necessitated a unique structure. Conversely, the Gulf of Mexico region—an organization more than 10 times as large, with 454 full time equivalent positions—was restructured internally by BSEE personnel without relying on a consultant. Additionally, the Gulf of Mexico Region's revised organizational structure aligns with the national program manager model implemented at BSEE headquarters (i.e., it has offices dedicated to the new national programs—investigations, environmental compliance, and enforcement). Some BSEE officials told us that they were unaware of leadership's rationale for the differences in office structures because it was not communicated across the bureau. In turn, this lack of communication from headquarters led to confusion because regional personnel

⁵⁹The value of this contract was approximately \$410,000.

viewed it as inconsistent with the Director's Intent for the restructuring, which contributed to trust concerns.

- BSEE headquarters did not notify the Gulf of Mexico Region when it advertised for two field-based positions located in the region to manage its SEMS program.⁶⁰ According to BSEE regional officials, these positions would replicate functions that already existed in the Gulf of Mexico Region's Office of Safety Management. Further, the reporting chain of these positions did not align with other actions taken during organizational restructuring, which emphasized consistency across the bureau. Specifically, these field-based positions would report to headquarters rather than regional leadership even though the Gulf of Mexico Region recently had undergone a restructuring to ensure that regional program offices report to regional leadership rather than headquarters. As a result, BSEE regional officials told us that headquarters' actions to create new positions that would affect the region without notifying it contributed to the trust concerns of regional personnel.
- BSEE headquarters did not disseminate the final 2016 Environmental Stewardship Collaboration Core Group report to all group members, including representatives from the Office of Environmental Compliance, which is BSEE's primary organization for conducting environmentally-focused oversight. As a result, BSEE operational personnel who could potentially benefit from the results of the working group were not advised of its final findings.

In February 2016, BSEE announced an initiative to assess internal communications and develop an employee engagement strategy. The data collection plan for this employee engagement initiative focused on conducting outreach across the bureau to identify the means by which BSEE personnel prefer to receive information—for example, town hall meetings, BSEE's website, or e-mail. BSEE conducted this outreach but as of November 2016 had not developed an employee engagement strategy—although its original target completion date was April 2016—and it is unclear when it will do so. In September 2016, BSEE decided to conduct a second round of outreach across the organization by spring 2017 to review feedback from the initial outreach, discuss next steps, and provide guidance on existing communications resources. Additionally, based on its initial outreach efforts, BSEE identified numerous interim projects to undertake while it develops its employee engagement

⁶⁰One of the goals of BSEE's *Fiscal Year 2016-2019 Strategic Plan* is to better define and communicate the roles of all BSEE offices.

strategy: redesigning the bureau's intranet website, updating its online employee directory, briefing employees on employee engagement project findings, training on BSEE's e-mail system, building staff interaction, and streamlining its staff onboarding process. However, BSEE headquarters officials told us that the bureau has not identified a plan with time frames for completion of these efforts.

BSEE employee engagement initiative documentation identifies the need to enhance communication vertically and horizontally across the bureau, but it is unclear whether its employee engagement initiative will address the lack of quality information that BSEE officials told us undermines trust across the organization or set expectations for sharing accurate and timely information as called for by BSEE's Fiscal Year 2016-2019 Strategic Plan. Under Standards for Internal Control in the Federal Government, management should internally communicate the necessary quality information to achieve the entity's objectives.⁶¹ For example, management communicates such quality information down, across, up, and around reporting lines to all levels of the entity. However, it is unclear whether BSEE's employee engagement initiative will do so because the scope of the effort has focused on means of communication rather than quality of information. Without expanding the scope of its employee engagement initiative to incorporate the need to communicate quality information throughout the bureau, BSEE's employee engagement initiative might not address the lack of quality information being communicated throughout the bureau that is exacerbating trust concerns.

**BSEE's IPRA Pilot
Assessment Did Not Address
Unclear and Conflicting
Guidance**

The bureau's IPRA is responsible for promptly and credibly responding to allegations or evidence of misconduct and unethical behavior by BSEE employees and coordinating its activities with other entities, such as the IG.⁶² Senior BSEE officials from across the bureau stated that the IPRA function is critical to bolstering trust within the bureau because personnel need to have a functioning mechanism to which they can report potential misconduct by other employees. However, some BSEE officials from across the bureau expressed concern regarding the IPRA's process for

⁶¹[GAO-14-704G](#).

⁶²As part of BSEE's restructuring of its investigative capabilities in 2015, the bureau established an IPRA within the Office of the Director to investigate allegations of serious misconduct involving any employee not accepted for investigation by the IG. The IPRA function had previously been located in BSEE's Investigations and Review Unit (IRU), which was dissolved as part of BSEE's organizational restructuring in 2015 and split into two new programs: the Safety and Incident Investigation Division and the IPRA.

adjudicating allegations of misconduct. To increase transparency and consistency in how IPRA cases are handled following the completion of an investigation report, BSEE conducted a pilot initiative in 2016 to assess the types of allegations of misconduct being reported to the IPRA as well as the frequency with which the IPRA referred such allegations to other entities. In August 2016, BSEE determined that the majority of incoming allegations are being directed to the appropriate office for action.

However, BSEE's pilot initiative did not address unclear and conflicting guidance that could undermine organizational trust in how the IPRA addresses allegations of misconduct. Specifically, the Interior Department Manual states that IPRA responsibilities include working with the IG on internal matters the IPRA investigates, pursuing certain administrative investigations with the IG's consent and knowledge, and advising the IG of the status and results of IPRA investigations, as requested.⁶³ Additionally, IPRA guidance stipulates that once an allegation is received, the IPRA Board—composed of the IPRA, the head of Human Resources, and the Deputy Director—will assess whether the allegation should be referred to the IG or other appropriate entity, investigated by the IPRA, or closed for no further action. Further, the IPRA told us that the IG has first right of refusal to investigate all allegations of misconduct within the bureau. However, the Interior Department Manual and IPRA guidance do not specify criteria for the severity thresholds for allegations that are to be referred to the IG. As a result, the boundaries of IPRA responsibility are unclear.

Additionally, BSEE's pilot initiative did not address IPRA guidance that conflicts with the reporting chain established by the Interior Department Manual and BSEE's organization chart. Specifically, the Interior Department Manual and BSEE's organization chart indicate that the IPRA reports to the BSEE Director.⁶⁴ However, IPRA guidance also states that, for cases that are not accepted by the IG, an IPRA Board composed of the IPRA, the head of Human Resources, and the Deputy Director will assess whether the allegation should be referred, investigated by the

⁶³The IPRA Internal Investigations Log includes internal investigations conducted by the IRU prior to the creation of the IPRA and its associated guidance. BSEE's IPRA pilot report stated that 1 of the 12 allegations (8 percent) it received during the pilot period were forwarded to the IG.

⁶⁴The IPRA's predecessor organization, the IRU, was also tasked with reporting to the BSEE Director.

IPRA, or closed for no further action. BSEE officials told us that, in practice, the IPRA makes determinations as stipulated by the IPRA guidance. In turn, this reporting structure—in which the IPRA Board determines how to proceed without consultation with the Director—does not align with the Interior Department Manual and BSEE organization chart. Some BSEE regional officials told us that the uncertainty of how the IPRA reports allegations to the IG as well as its reporting structure led them to question the independence of IPRA activities and expressed concern that the IPRA could be used to retaliate against employees, which has undermined organizational trust in its activities.⁶⁵

Under the federal standards of internal control, management should design control activities to achieve objectives and respond to risks.⁶⁶ For example, agencies are to clearly document internal controls, and the documentation may appear in management directives, administrative policies, or operating manuals. While BSEE has documented its policies, they are not clear, because (1) neither the IPRA guidance nor the Interior Department Manual specifies criteria for the severity thresholds for allegations that are to be referred to the IG and (2) the IPRA guidance does not align with the Interior Department Manual and BSEE organization chart concerning the IPRA reporting chain. Moreover, BSEE's IPRA pilot initiative did not address the unclear and conflicting guidance regarding IPRA's referral criteria and reporting chain, respectively. Without assessing and amending its IPRA guidance to clarify (1) the severity threshold criteria for referring allegations and (2) the IPRA reporting chain, BSEE risks further eroding organizational trust in the IPRA to carry out its mission to promptly and credibly respond to allegations or evidence of misconduct by BSEE employees.

Conclusions

Since 2012, BSEE has begun several key strategic initiatives to improve its safety and environmental oversight. However, the bureau has made limited progress in implementing them. For example, BSEE's Environmental Stewardship Initiative encompassed two simultaneous efforts to reduce environmental risks related to U.S. offshore oil and gas operations, but the efforts were partially overlapping, had ineffective

⁶⁵Some IPRA investigations are initiated at the direction of BSEE leadership. 8 of the 34 BSEE internal investigations recorded in the IPRA Internal Investigations Log were initiated by the Director (1) or Deputy Director (7) since 2013. Of these 8, 3 were not referred to the IG, according to the IPRA Internal Investigations Log.

⁶⁶[GAO-14-704G](#).

coordination and communication, and produced few results. Without establishing a mechanism for BSEE management to obtain and incorporate input from bureau personnel and any external parties, such as Argonne, that can affect the bureau's ability to achieve its objectives, BSEE's risk-based inspection program is likely to experience continued delays and implementation problems. Likewise, since 2013 BSEE has begun several strategic initiatives to improve its internal management but has made limited progress in implementing them. Without a higher-level organization within Interior addressing leadership commitment deficiencies within BSEE, including by implementing internal management initiatives and ongoing strategic initiatives (e.g., ERM and performance measure initiatives) in a timely manner, the bureau is unlikely to succeed in implementing internal management initiatives, including its key strategic initiatives for ERM and performance measures, in a timely manner. Additionally, BSEE documentation identifies the need to enhance communication vertically and horizontally across the bureau, but it is unclear whether the bureau's employee engagement initiative will address the lack of quality information that BSEE officials told us undermines trust across the organization or set expectations for sharing accurate and timely information as called for by BSEE's Fiscal Year 2016-2019 Strategic Plan. Without expanding the scope of its employee engagement strategy to incorporate the need to communicate quality information throughout the bureau, BSEE's employee engagement initiative might not address the lack of quality information being communicated throughout the bureau that is exacerbating trust concerns. Further, BSEE's IPRA pilot initiative did not address unclear and conflicting guidance that could undermine organizational trust in how the IPRA addresses allegations of misconduct. Without assessing and amending IPRA guidance to clarify (1) severity threshold criteria for referring allegations of misconduct to the IG and (2) its reporting chain, BSEE risks further eroding organizational trust in the IPRA to carry out its mission to promptly and credibly respond to allegations or evidence of misconduct by BSEE employees.

Recommendations for Executive Action

In this report, we are making four recommendations. We recommend that the Secretary of the Interior direct the Assistant Secretary for Land and Minerals Management, who oversees BSEE, take the following two actions:

- Establish a mechanism for BSEE management to obtain and incorporate input from bureau personnel and any external parties,

such as Argonne, that can affect the bureau's ability to achieve its objectives.

- Address leadership commitment deficiencies within BSEE, including by implementing internal management initiatives and ongoing strategic initiatives (e.g., ERM and performance measure initiatives) in a timely manner.

We also recommend that the Secretary of the Interior direct the BSEE Director take the following two actions:

- To address trust concerns that exist between headquarters and the field, BSEE should expand the scope of its employee engagement strategy to incorporate the need to communicate quality information throughout the bureau.
- To increase organizational trust in IPRA activities, BSEE should assess and amend IPRA guidance to clarify (1) severity threshold criteria for referring allegations of misconduct to the IG and (2) its reporting chain.

Agency Comments and Our Evaluation

We provided a draft of this report to the Department of the Interior for review and comment. In its written comments, reproduced in appendix I, Interior neither agreed nor disagreed with our four recommendations. Interior stated that the recommendations reflect ongoing BSEE commitments and that BSEE and Interior agree with the concepts laid out in the first three recommendations. For the fourth recommendation, Interior stated that BSEE will examine the current guidance for the Integrity and Professional Responsibility Advisor. However, Interior also stated that the draft report neither fully describes the progress made within BSEE nor fully represents the current status of the programs, initiatives, and activities highlighted therein. Interior requested that we consider information that it stated provides status updates and corrections, while also laying out in more detail BSEE's continuing commitments in these areas. Interior also enclosed additional documentation. We reviewed the additional information and documentation that Interior provided and found no evidence to support the revision of any of our findings. In turn, we disagree with Interior's characterization of the progress that BSEE has made and believe that actions to implement our recommendations are necessary. Specifically:

- Regarding our recommendation that Interior develop a mechanism for BSEE management to obtain and incorporate input from bureau personnel and any external parties that can affect the bureau's ability

to achieve its objectives, Interior's comments do not discuss any specific actions taken or underway to do so. Additionally, in its comments, Interior stated that regional personnel, such as regional managers and district managers, were involved throughout the development of the risk model and the pilot testing. To support this statement, Interior provided documentation of electronic communications from BSEE headquarters to senior regional leadership informing them of certain aspects of the program and meeting documents showing that certain regional officials attended meetings regarding program development. However, instead of demonstrating that regional managers were involved in the development of the model and methodology, this documentation demonstrates that regional officials raised concerns about the model and methodology but that headquarters officials said they would not make any changes in response to these concerns. Specifically, Interior provided e-mails that indicate headquarters informed regional officials of the development of the model through the Strategic Plan Implementation Team in late 2012. However, e-mails from early 2015 indicate that regional officials were not involved in the development of the risk model or risk-based inspection program methodology in the intervening more than 2 years, because they had to request information from headquarters about the underlying basis of the model and the methodology that they were being asked to comment on. After regional officials reviewed the methodology and the model, they e-mailed headquarters and raised concerns with the model. Headquarters officials replied that they validated the model and that changing the parameters of the model would decrease its effectiveness. Therefore, the e-mails that Interior provided support what regional personnel told us—that their input was not incorporated into the model and methodology prior to the first pilot. We found that regional personnel became more involved in the risk-based inspection initiative after the first pilot exposed deficiencies in headquarters' approach. In its comments, Interior disagreed with our assessment of pilot test deficiencies and stated that BSEE expected to encounter issues while pilot testing. However, we believe that some of those issues may have been averted had BSEE included the input of regional officials earlier in the process. As described throughout the report across multiple initiatives, we have concerns about the fundamental working relationship between the region and headquarters, which are substantiated by the e-mails that Interior provided in response to our draft report. In turn, we continue to believe that Interior should develop a mechanism for BSEE management to obtain and incorporate input from bureau personnel

and any external parties that can affect the bureau's ability to achieve its objectives in the next risk-based inspection pilot test, which will be conducted by a joint headquarters-regional team in March 2017. However, as we discussed in the report, the first pilot had deficiencies in identifying high-risk offshore facilities, so the extent to which BSEE will be able to apply lessons learned is uncertain.

- Regarding our recommendation that Interior address leadership commitment deficiencies within BSEE, including implementing internal management initiatives (e.g., ERM and performance measure initiatives) in a timely manner, Interior's comments do not discuss any specific actions taken to meet the intent of our recommendation. Interior states that BSEE's implementation of ERM is on target and that BSEE has an established ERM framework, completed its risk register, has a fully developed maturity model, has aligned enterprise and strategic risks with its strategic plan and has linked program risks with appropriate strategic risk categories, in addition to other activities. Interior also stated that BSEE is on schedule to complete its first full ERM cycle in March 2017. Additionally, Interior states that ERM is a relatively new program directed by a fall 2016 Office of Management and Budget Circular regarding ERM.⁶⁷ However, while Circular No. A-123 was revised in July 2016 with new ERM implementation requirements effective for fiscal year 2017, Interior's statement is misleading because BSEE's efforts have been ongoing since 2013. Additionally, Interior provided clarifications but does not dispute our findings on its efforts to develop performance measures. Specifically, Interior states that the November 2016 completion of a fiscal year 2016 Baseline Performance Measure Report represented the first step of implementation of BSEE's performance measure program and that the bureau anticipates having an initial performance dashboard in fiscal year 2018. By considering November 2016 as the first step toward a performance measures program, Interior appears to disregard BSEE's efforts over the prior 4 years. If BSEE succeeds in fiscal year 2018, this will be the culmination of 6 years of attempting to develop performance measures to inform management decision making. Therefore, we continue to believe that Interior should address leadership commitment deficiencies within BSEE, including by implementing internal management initiatives, such as ERM and

⁶⁷ Office of Management and Budget Cir. No. A-123, *Management's Responsibility for Enterprise Risk Management and Internal Control* (July 15, 2016).

performance measures, in a timely manner rather than revising initiative start dates.

- Regarding our recommendation that BSEE expand the scope of its employee engagement strategy to incorporate the need to communicate quality information throughout the bureau, Interior stated that BSEE is committed to enhancing communication and collaboration among its personnel and agrees with the importance strengthening communication between headquarters and the regions. Interior asserts that, since receiving our draft report, BSEE has completed assessment and analysis of employee feedback, and developed an engagement plan. However, Interior did not provide documentary evidence of this plan or what it entails. Moreover, in our report we identified a long history of poor communication between headquarters and regional officials, leading to a widespread lack of trust across the bureau. Without providing evidence of BSEE's activities—and in light of the bureau's documented struggles to effectively implement organizational change—we cannot confirm that any action has been taken and continue to believe that BSEE should expand the scope of its employee engagement strategy to incorporate the need to communicate quality information throughout the bureau.
- Regarding our recommendation that BSEE assess and amend IPRA guidance to clarify (1) severity threshold criteria for referring allegations of misconduct to the IG and (2) its reporting chain, Interior stated that the creation of the IPRA directly impacts trust concerns within BSEE and that the bureau will examine current guidance for the IPRA. However, Interior stated that contrary to our draft report, the Interior Department Manual already includes severity threshold criteria for referring allegations of misconduct to the IG. We believe that the language in the Interior Department Manual, which states that “serious allegations” and “serious complaints” should be referred to the IG, does not provide the specificity needed to adequately define the boundaries of IPRA responsibility. Additionally, Interior stated that the IPRA reports to the BSEE Director, consistent with the reporting chain established in the bureau's organizational chart and the Interior Department Manual. However, the BSEE Director told us that, in practice, the IPRA often reports to the BSEE Deputy Director rather than the Director. Moreover, our work found that the decision making process of the IPRA Board—whereby the IPRA Board determines how to respond to an investigation without consultation with the Director—does not align with the IPRA's prescribed reporting chain. As a result, we continue to believe that BSEE should assess and

amend IPRA guidance to clarify (1) severity threshold criteria for referring allegations of misconduct to the IG and (2) its reporting chain.

Interior's comments on our draft report underscore our concerns regarding deficiencies in BSEE leadership commitment and support the decision to incorporate the restructuring of offshore oil and gas oversight into our High-Risk List in February 2017. Specifically:

- In its comments, Interior highlighted BSEE's decision to contract with NAPA to evaluate the bureau—at a cost of approximately \$450,000—as an example of the bureau's commitment to maturing the organization. However, the timing, scope, and methodology cause us to question its value. Specifically, BSEE issued the contract five months after we began our review, and its scope—which includes identifying BSEE strategic and organizational initiatives and assessing their progress—mirrors our work already underway. Further, the contract stipulates that all work “shall be developed in a collaborative manner with BSEE leadership, but with a focus on document review rather than in-depth interviews with bureau personnel.” This calls into question the independence of the NAPA evaluation. Additionally, when we met with the NAPA team, they indicated that their instructions were to focus on BSEE headquarters and not conduct outreach to the bureau's operational components in the regions. In our experience working with BSEE, we have found extensive outreach to the field to be essential to understanding the operations of the bureau. As a cumulative result of these factors, it is uncertain whether BSEE's decision to engage in this evaluation will produce the organizational improvement advertised by Interior.
- Interior's written comments contain factual errors that are contradicted by the evidence we collected in our work, further heightening our concerns regarding BSEE leadership's commitment to taking the steps needed to improve the bureau. For example, Interior states that environmental risk was not a consideration in the Core Group objectives or final report. However, the Core Group's final report states that the purpose of the report was “to assist in determining current and emerging environmental risks and whether BSEE has the best mitigation strategies in place.” Likewise, Interior states that BSEE's Environmental Stewardship Collaboration Core Group and Argonne Environmental Risk Assessment were not simultaneous efforts. On the contrary, according to its final report, the Core Group convened from February 2016 to May 2016. The Statement of Work

for the Argonne environmental risk assessment contract was issued in December 2015, and Argonne delivered its final report in July 2016.

Interior also provided technical comments that we incorporated into the report, as appropriate.

We are sending copies of this report to the appropriate congressional committees, the Secretary of the Interior, and other interested parties. In addition, the report is available at no charge on the GAO website at <http://gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-3841 or ruscof@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix II.



Frank Rusco
Director, Natural Resources and Environment

Appendix I: Comments from the Department of the Interior



United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, DC 20240

MAR - 7 2017

Mr. Frank Rusco
Director, Natural Resources and Environment
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Mr. Rusco:

Thank you for providing the Department of the Interior (Department) the opportunity to review and comment on the draft Government Accountability Office (GAO) report, entitled *Oil and Gas Management: Stronger Leadership Commitment Needed at Interior to Improve Offshore Oversight and Internal Management* (GAO-17-293).

The Department recognizes the significant effort that GAO invested into this general management review of Bureau of Safety and Environmental Enforcement (BSEE). The draft report, however, neither fully describes the progress made within BSEE nor fully represents the current status of the programs, initiatives, and activities highlighted therein.

BSEE is a relatively new organization with a fundamental mission that incorporates functions that were underdeveloped in BSEE's predecessor agency. As such, BSEE is continually working to refine these functions and strengthen the Bureau's strategic and programmatic capacities. The Department, as well as the Bureau itself, recognizes that BSEE must continue to build its organizational maturity. This commitment to maturing the organization is reflected in BSEE's recent choice to voluntarily undertake a comprehensive evaluation of the Bureau. The National Academy of Public Administration (NAPA) is leading this evaluation, bringing its independence and expertise to identifying tangible steps that BSEE can take to enhance the organization. NAPA's report is expected to be publicly available at the end of March.

BSEE is also committed to ensuring effective information exchange across programs and regions, implementing key internal management initiatives, and building trust throughout the Bureau, as described in more detail below and in the enclosed specific comments on GAO's draft report.

The Department, therefore, believes that GAO's recommendations reflect ongoing BSEE commitments. Additionally, GAO's first three recommendations relate to initiatives and pilots that continue to evolve as the Bureau gains experience and understanding. The Department and BSEE agree with the concepts laid out in the recommendations, but believe that the Bureau is already undertaking actions in these areas. Regarding GAO's fourth recommendation, BSEE will examine the current guidance for the Integrity and Professional Responsibility Advisor. As

noted below, however, severity threshold criteria already exist for misconduct referrals to the Department's Office of Inspector General (OIG).

The Department requests that GAO consider the following clarified, updated, and new information on the main topics listed below as the report is finalized. This information provides status updates and corrections, while also laying out in more detail BSEE's continuing commitments in these areas. More detailed comments are enclosed providing further updates and clarifications.

Risk-Based Inspections (RBI)

The RBI approach is a supplement to the annual inspections program required under the Outer Continental Shelf Lands Act (OCSLA), not a replacement. Additionally, the risk model itself is not a stand-alone tool and cannot be the sole basis for determination of risk; other information also contributes to BSEE's consideration of risk factors. Development of this new program represents a significant change in the historical approach to inspection and enforcement by both the Department and industry. Regional personnel such as regional managers and district managers were involved throughout the development of the risk model and the pilot testing, as described in the more detailed comments enclosed.

We disagree with the report's assessment of pilot test deficiencies as it results in a misconception of BSEE's progress in this area. By definition, a pilot program or test is a small-scale, short-term experiment that helps an organization learn how a large-scale project might work in practice. The value of a pilot test is that it informs new approaches and process improvements that may not have been known or identified before conducting the pilot test. BSEE expected to encounter issues while pilot-testing the RBI approach and continues to benefit from the lessons learned. These lessons learned will be applied in the next RBI pilot test, which will be conducted by a joint headquarters-regional team in March 2017.

Environmental Stewardship

The Environmental Stewardship Collaboration Core Group and the Argonne Environmental Risk Assessment were not simultaneous efforts, but two separate and distinct initiatives with different objectives. The Core Group focused on enhancing environmental stewardship within BSEE, while the Argonne effort focused on assessing environmental risk on the Outer Continental Shelf. Environmental risk was not a consideration in the Core Group objectives or the final report. Further, the Core Group was briefed on Argonne efforts at the Core Group's February 9, 2016, meeting. Argonne representatives attended all three of the Core Group's in-person meetings.

Enterprise Risk Management (ERM)

ERM is a relatively new program directed by the Office of Management and Budget (OMB) in the fall of 2016 in Circular A123 to be effective for Fiscal Year (FY) 2017. By definition, ERM is an agency-wide approach that addresses the full spectrum of an organization's significant risks by considering the combined array of risks as an interrelated portfolio, rather than addressing risks only within silos. BSEE's implementation of ERM is on target. BSEE has an established ERM framework, completed its risk register, has a fully developed maturity model, has aligned enterprise and strategic risks with its strategic plan and has linked program risks with appropriate

strategic risk categories, in addition to other activities. BSEE is on schedule to complete its first full ERM cycle in March 2017.

Performance Measures

BSEE is currently implementing a performance measure program at the national level. This program goes beyond the Bureau's reporting of Government Performance and Results Act (GPRA) measures and instead seeks to provide information for management decision-making. The November 2016 completion of a FY 2016 Baseline Performance Measure Report represented the first step of implementation. BSEE is currently collecting data for existing measures identified in that report and both mid-year and end-of-year reports will be provided to leadership. Additionally, BSEE is expanding into national application of those measures initially identified as regional measures, while also establishing new measures related to permitting, Safety and Environmental Management Systems (SEMS), and other program areas. BSEE views this effort as an iterative, multi-year initiative that will lead to a performance dashboard that supports management decision-making. BSEE anticipates having an initial performance dashboard in FY18.

Employee Engagement

BSEE is committed to enhancing communication and collaboration among its personnel. The recent Employee Engagement efforts, including the 2016 Employee Engagement initiative referenced in the GAO report, are key components of this commitment. Since the issuance of the GAO draft report, the Bureau has completed assessment and analysis of employee feedback, and developed an engagement plan. In December and January, BSEE headquarters completed its first round of follow-up visits to the districts and regions. Redesign of the internal website is underway, which reflects input received on enhancing communications.

BSEE is also committed to effective communication among headquarters and the regions. The Bureau recognizes that some issues with cross-bureau communications remain and that this is an area where ongoing improvements are needed. BSEE agrees with the importance of strengthening communication channels between headquarters and regional office personnel.

Integrity and Professional Responsibility Advisor (IPRA)

The creation of the IPRA directly impacts trust concerns within the Bureau. One of the key reasons for the separation of external and internal investigative components was to effectively address factors that contributed to trust concerns among field employees and investigators. Once the internal investigations function was separated from external investigations, cooperation from regional and district offices improved for both IPRA and the external investigators. As a result, employees are able to work more effectively with BSEE's external investigators as the separation of internal investigations has built trust between field staff and external investigators.

The IPRA is an investigative tool to assist managers and supervisors. Any disciplinary actions resulting from investigations are handled in accordance with applicable rules and guidelines. Contrary to the GAO draft report, criteria exist for when IPRA cases should be referred to the Department's OIG. BSEE and the IPRA adhere to the OIG's criteria for the severity thresholds for allegations that are to be referred to the OIG. These criteria are outlined in the DOI Department Manual 355 DM 2, which lays out the OIG's policy for complaints and referrals.

Finally, the IPRA reports to the Director of BSEE, consistent with the reporting chain established in the Bureau's organizational chart and the Department Manual (119 DM 2) and carries out the Director's responsibilities, as outlined in the Departmental Manual (370 DM 752). Additionally, the IPRA briefs the Director on case status and work progress. The composition of the IPRA Board (i.e., the IPRA, Human Resources Chief and the Deputy Director or his/her designee) recognizes that the Director may ultimately be the deciding official during the disciplinary phase. Neither the creation nor the composition of this board alters this reporting chain.

Comments on particular sections of the draft report are provided in Enclosure 1. We believe consideration of these comments will paint a more accurate picture of the achievements, progress, and challenges associated with the issues reported.

If you have any questions regarding this response, please contact Linh Luu, BSEE Audit Liaison Officer, at (202) 208-4120.

Sincerely,



Richard T. Cardinale
Acting Assistant Secretary
Land and Minerals Management

Enclosure

Appendix II: GAO Contact and Staff Acknowledgments

GAO Contact

Frank Rusco, (202) 512-3841 or ruscof@gao.gov

Staff Acknowledgments

In addition to the individual named above, Christine Kehr, Assistant Director; Richard Burkard; Cindy Gilbert; Alison O'Neill; Matthew D. Tabbert; Barbara Timmerman; Kiki Theodoropoulos; and Daniel R. Will made significant contributions to this report.

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From: [Scott Angelle](#)
To: Evan@offshoreoperators.com; [Holly Hopkins](#)
Subject: BAST Production Equipment List-.docx
Date: Wednesday, December 5, 2018 5:37:13 AM
Attachments: [ATT00001.txt](#)
[BAST Production Equipment List-.docx](#)

Good morning. Thank you for providing your work product on your review of the drilling equipment you concluded are subject to BAST. BSEE subject matter experts have been assigned to review and respond.

I am attaching a document that these same subject matter experts have prepared relative to production equipment they believe could be subject to BAST.

BSEE is committed to continuing its recent efforts to elevate solutions to BAST.

Sent from my iPhone

Initial Assessment of Equipment Subject to BAST Statutory Requirements Production Operations

BACKGROUND

The BAST requirement of the OCS Lands Act Amendments of 1978 is stated in section 21(b)¹ of the Act as:

“... the Secretary (of the Interior) and the Secretary of the Department in which the Coast Guard is operating shall require, on all new drilling and production operations and wherever practicable on existing operations, the use of the best available and safest technologies which the Secretary determines to be economically feasible, wherever failure of equipment would have a significant effect on safety, health, or the environment, except where the Secretary determines that the incremental benefits are clearly insufficient to justify the incremental costs of utilizing such technologies.”

This section of the statute is separate and apart from the Section 5(a) provision that requires the Secretary to issue regulations to protect health, safety and the environment.

The BAST requirement is limited to equipment that the BSEE Director requires “wherever failure of **equipment** would have a **significant effect** on safety, health, or the environment”. Unfortunately, neither the statute nor legislative history defines the terms “**equipment**” or “**significant effect**.”

SIGNIFICANT EFFECT

There may be a broad range of equipment that meets this statutory definition of BAST. For purposes of *initially prioritizing* equipment subject to the BAST, BSEE focused on the failure of equipment during production operations that could have the following potential effects:

1. Five or more fatalities which is consistent with the E.U. Directive 2013/30/EU² definition of major offshore safety incident, and/or
2. Oil spills greater than 50,000 barrels/day which is consistent with BOEM’s OCS Report BOEM 2017-007³ description of a catastrophic spill as ranging from 30,000 to 60,000 barrels/day (shallow vs. deepwater OCS).

These criteria, used to measure “significant effect” were used to help prioritize and focus the initial assessment of equipment. There are many incidents that could be considered “significant” that do not meet these initial criteria.

BSEE requests input on a definition of “significant effect” that defines the scope of the BAST requirement.

¹ **Authority:** Outer Continental Shelf Lands Act (OCSLA) Amendments of 1978, 43 U.S.C. §1331 *et seq.* (Section 21(b))

² E.U. Directive 2013/30/EU, Chapter 1, Article 2 (1), Definitions

³ OCS Report BOEM 2017-007, *Catastrophic Spill Event Analysis: High-Volume, Extended-Duration Oil Spill Resulting from Loss of Well Control on the Gulf of Mexico Outer Continental Shelf*

Definition of Equipment

To define equipment that would be subject to BAST, BSEE relied on common terms and definitions used by regulators, industry groups and standards writing organizations. BSEE utilized barrier definitions contained in IOGP documents to define the overall categories of equipment for evaluation and then identified safety critical equipment within each category:

- “Barriers” are systems that prevent realization of a hazard (i.e., accidents). The International Association of Oil & Gas Producers (IOGP) has developed a set of barrier definitions used across the industry and by other regulators. These definitions are contained in IOGP Reports 415 and 544.
- “Safety critical equipment/elements” are the barriers that prevent major accidents from occurring (E.U. Directive 2013/30/EU and API RP 2FB). The failure of an SCE could cause or contribute to a major accident (U.K. Step Change in Safety-definitions).

IOGP Report 544, “*Standardization of barrier definitions*”, (April 2016), defines hardware barriers during production operations:

I. IOGP Standardization of barrier definitions

1. Hardware barrier categories

Within this subcategory, BSEE identified the following as safety critical equipment that must perform when needed to prevent significant effects (as defined above):

- a) Category 2: Process Containment
 - (1) Subcategories of Category 2
 - (a) Fired / Heated Vessels**
- b) Category 4: Detection Systems
 - (1) Subcategories of Category 4
 - (a) Vented Gas Detection System**
- c) Category 6: Shutdown Systems – including operational well isolation and drilling well control equipment
 - (1) Subcategories of Category 6
 - (a) ESD System**
 - (b) Pressure Safety / Relief Valves / System**
 - (c) HIPPS**
 - (d) Subsurface Safety Valves**
 - (e) Surface & Underwater Safety Valves / Trees**
 - (f) Boarding Shutdown Valves**
 - (g) Pipeline Isolation Valves**

BSEE requests input on whether this list describes equipment that should be subject to a BAST requirement and the identification of other equipment that should be added.

From: [Mike Sommers](#)
To: [Scott Angelle](#)
Subject: You're Invited to API's State of American Energy 2019
Date: Monday, December 10, 2018 9:43:29 AM

Generation Energy | You're Invited to The 2019 State of American Energy



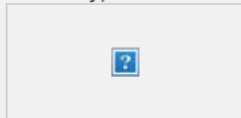
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Guided by smart policies and regulations that unleash innovation and progress, natural gas and oil are playing a powerful role in America's economic progress and will for generations to come.

Join me and industry leaders from coast to coast at the 2019 State of American Energy luncheon.

Sincerely,



MIKE SOMMERS
President and CEO, API

RSVP

BY DECEMBER 31st

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Subject: Invitation: Call with H. Hopkins (10:30am CST) @ Mon Dec 17, 2018 11:30am - 12pm (EST) (preston.beard@bsee.gov)
Attachments: [invite.ics](#)

more details > <https://www.google.com/calendar/event?action=VIEW&eid=MHZvbU44bmJpOTBycHRudjU3aXY1cG5NjkgcHJlc3Rvbi5lZWZlZEBic2VILmdvdg&tok=MjJjc2NvdHQuYW5uZWxzZUBic2VILmdvdmlU3Nm0Mrg4Y2YwMjc4MWZjNWlyZjViMDI1ZmUwODM3MzYxYzdkNTU&ctz=America%2FNew_York&hl=en&es=1>

Call with H. Hopkins (10:30am CST)

When Mon Dec 17, 2018 11:30am - 12pm Eastern Time - New York

Where Please call mobile: [\(b\) \(6\)](tel:(616)612-2222) (map <[https://maps.google.com/maps?q=\(b\) \(6\)&hl=en](https://maps.google.com/maps?q=(b) (6)&hl=en)>)

Video call <https://bsee.zoom.us/j/9101111111>

Calendar preston.beard@bsee.gov

Who > scott.angelico@bsee.gov - organizer

• ellen.angelico@bsee.gov - creator, optional

• hopkinsb@apl.org

• preston.beard@bsee.gov - optional

• monica.mcbrady@bsee.gov - optional

Your attendance is optional.

Going (preston.beard@bsee.gov)? Yes <https://www.google.com/calendar/event?action=RESPOND&eid=MHZvbU44bmJpOTBycHRudjU3aXY1cG5NjkgcHJlc3Rvbi5lZWZlZEBic2VILmdvdg&rst=1&tok=MjJjc2NvdHQuYW5uZWxzZUBic2VILmdvdmlU3Nm0Mrg4Y2YwMjc4MWZjNWlyZjViMDI1ZmUwODM3MzYxYzdkNTU&ctz=America%2FNew_York&hl=en&es=1>

- Maybe <https://www.google.com/calendar/event?action=RESPOND&eid=MHZvbU44bmJpOTBycHRudjU3aXY1cG5NjkgcHJlc3Rvbi5lZWZlZEBic2VILmdvdg&rst=3&tok=MjJjc2NvdHQuYW5uZWxzZUBic2VILmdvdmlU3Nm0Mrg4Y2YwMjc4MWZjNWlyZjViMDI1ZmUwODM3MzYxYzdkNTU&ctz=America%2FNew_York&hl=en&es=1>

- No <https://www.google.com/calendar/event?action=RESPOND&eid=MHZvbU44bmJpOTBycHRudjU3aXY1cG5NjkgcHJlc3Rvbi5lZWZlZEBic2VILmdvdg&rst=2&tok=MjJjc2NvdHQuYW5uZWxzZUBic2VILmdvdmlU3Nm0Mrg4Y2YwMjc4MWZjNWlyZjViMDI1ZmUwODM3MzYxYzdkNTU&ctz=America%2FNew_York&hl=en&es=1>

more options > <https://www.google.com/calendar/event?action=VIEW&eid=MHZvbU44bmJpOTBycHRudjU3aXY1cG5NjkgcHJlc3Rvbi5lZWZlZEBic2VILmdvdg&tok=MjJjc2NvdHQuYW5uZWxzZUBic2VILmdvdmlU3Nm0Mrg4Y2YwMjc4MWZjNWlyZjViMDI1ZmUwODM3MzYxYzdkNTU&ctz=America%2FNew_York&hl=en&es=1>

Invitation from Google Calendar <https://www.google.com/calendar?event=MHZvbU44bmJpOTBycHRudjU3aXY1cG5NjkgcHJlc3Rvbi5lZWZlZEBic2VILmdvdg&tok=MjJjc2NvdHQuYW5uZWxzZUBic2VILmdvdmlU3Nm0Mrg4Y2YwMjc4MWZjNWlyZjViMDI1ZmUwODM3MzYxYzdkNTU&ctz=America%2FNew_York&hl=en&es=1>

You are receiving this email at the account preston.beard@bsee.gov because you are subscribed for invitations on calendar preston.beard@bsee.gov.

To stop receiving these emails, please log in to <https://www.google.com/calendar/> and change your notification settings for this calendar.

Forwarding this invitation could allow any recipient to modify your RSVP response. Learn More <<https://support.google.com/calendar/answer/37135#forwarding>> .

From: scott.angelle@bsee.gov
To: hopkinsh@api.org
Cc: cileen.angelico@bsee.gov; preston.beard@bsee.gov; monica.mcbrady@bsee.gov
Subject: New event: Call with H. Hopkins (10:30am CST) @ Mon Dec 17, 2018 11:30am - 12pm (EST) (scott.angelle@bsee.gov)
Attachments: [invite.ics](#)

more details > <https://www.google.com/calendar/event?action=VIEW&eid=MHZvbmlU4bmJpOTBycHRtdjU3aXY1cG5kbnkjbW9uaWNhl.mjYudjZlHAYnNlZS5nb3Y&tok=MjJjc2NvdHQuYW5uZWxsZUBic2Vl.mdvdmI3ZmUwZTk5ODk0MzdHlZmRkYzg0MGQ5ZjZlMzZjYTdhNTlyMGE0OWY&ctr=America%2FNew_York&hl=en&es=1>

Call with H. Hopkins (10:30am CST)
When Mon Dec 17, 2018 11:30am – 12pm Eastern Time - New York
Where Please call mobile (610) 610-7444 (map <[https://maps.google.com/maps?q=\(610\)610-7444](https://maps.google.com/maps?q=(610)610-7444)) Please call mobile %23 %28202%29 744-2995&hl=en>.)
Video call <https://meet.google.com/...> (610) 610-7444
Calendar scott.angelle@bsee.gov
Who • scott.angelle@bsee.gov - organizer
• cileen.angelico@bsee.gov - creator, optional
• hopkinsh@api.org
• preston.beard@bsee.gov - optional
• monica.mcbrady@bsee.gov - optional

Invitation from Google Calendar <<https://www.google.com/calendar/>>
You are receiving this email at the account monica.mcbrady@bsee.gov because you are subscribed for new event updates on calendar scott.angelle@bsee.gov.
To stop receiving these emails, please log in to <https://www.google.com/calendar/> and change your notification settings for this calendar.
Forwarding this invitation could allow any recipient to modify your RSVP response. Learn More <<https://support.google.com/calendar/answer/37135#forwarding>>.

From: [Holly Hopkins](#)
To: scott.angelle@bsee.gov
Subject: Accepted: Invitation: Call with H. Hopkins (10:30am CST) @ Mon Dec 17, 2018 11:30am - 12pm (EST)
(hopkinsh@api.org)

When: Dec 17, 2018 11:30:00 AM

Where: Please call mobile # (b) (6)

From: [Mike Sommers](#)
To: [Scott Angelle](#)
Subject: You're Invited to API's State of American Energy 2019
Date: Wednesday, December 19, 2018 10:29:10 AM

Generation Energy | You're Invited to The 2019 State of American Energy



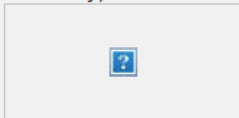
**The American Petroleum Institute invites you to
The 2019 State of American Energy luncheon – celebrating Generation Energy**

We are in the midst of Generation Energy. More natural gas and oil is produced in the United States than any other country in the world. At the same time, U.S. carbon dioxide emissions are at their lowest levels in a generation, largely because of the growing role played by clean natural gas. Our industry is an economic engine, supporting 10.3 million jobs – to produce, deliver and refine natural gas and oil – as well as jobs associated with energy development and the personal spending of our workers.

Guided by smart policies and regulations that unleash innovation and progress, natural gas and oil are playing a powerful role in America's economic progress and will for generations to come.

Join me and industry leaders from coast to coast at the 2019 State of American Energy luncheon.

Sincerely,



MIKE SOMMERS
President and CEO, API

RSVP

BY DECEMBER 31st

This invitation is non-transferable.



WHEN

**TUESDAY, JANUARY 8, 2019
11:30 A.M.– 1:30 P.M.**

WHERE

**RONALD REAGAN BUILDING AND
INTERNATIONAL TRADE CENTER
ATRIUM BALLROOM**

1300 PENNSYLVANIA AVENUE, NW
WASHINGTON, DC 20004
Please use entrance on 14th Street

[API](#)



[Power Past Impossible](#)



This event has been designed to comply with the gifts and ethics rules of the U.S. Senate and House of Representatives as a "widely attended event." Employees of the executive branch may wish to consult their Designated Agency Ethics Official about any rules that may apply to their attendance at this

event.

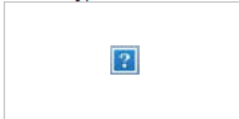
?

From: [Mike Sommers](#)
To: [Scott Angelle](#)
Subject: Last Chance to Register for The State of American Energy
Date: Thursday, December 27, 2018 10:32:25 AM

**The American Petroleum Institute invites you to
The 2019 State of American Energy luncheon – a celebration of Generation Energy**

December 31, 2018 is the last chance to register for API's 2019 State of American Energy luncheon on **Tuesday, January 8, 2019** from 11:30 A.M.-1:30 P.M. Please RSVP at Registrar@api.org if you have any questions.

Sincerely,



MIKE SOMMERS,
President and CEO, API



This event has been designed to comply with the gifts and ethics rules of the U.S. Senate and House of Representatives as a "widely attended event." Employees of the executive branch may wish to consult their Designated Agency Ethics Official about any rules that may apply to their attendance at this event.

If you do not want to receive future emails from Mike Sommers, go to: [Opt-Out](#).



From: [Mike Sommers](#)
To: [Scott Angelle](#)
Subject: Live Now: 2019 State of American Energy
Date: Tuesday, January 8, 2019 12:04:04 PM

API_2019_State of American Energy



Watch Live: The State of American Energy

If you were unable to attend API's State of American Energy 2019 event today, you don't have to miss it! Simply [watch the event live](#).

We encourage you to join the conversation on Twitter using [#SOAE2019](#).



From: [American Petroleum Institute](#)
To: [Scott Angelle](#)
Subject: Invitation to the COS Workshop - Guidance for a Robust Safety Culture
Date: Wednesday, January 23, 2019 12:47:14 PM

API_590x80



COS Workshop - Guidance for a Robust Safety Culture

You are invited to the 2019 COS Workshop on Safety Culture, being held on February 13, 2019 in Houston, TX to learn about the recently published [COS Guidance for a Robust Safety Culture](#). During this free interactive workshop we will examine real world dilemmas that we face in trying to build, maintain, and strengthen offshore safety culture. We will:

- Explore elements of a robust safety culture
- Discuss potential success factors and obstacles
- Examine real world scenarios and compromises
- Question how to use this guidance to improve and evaluate a company's culture

Please park on the South side of Murphy Tower and sign in at reception on the South side of the ground floor. Lunch will be provided.

When

Wednesday, February 13, 2019

Where

Murphy Tower
9805 Katy Freeway, Houston, Texas 77024, USA

RSVP

Monday, February 11, 2019

Please respond by clicking one of the buttons below



Having trouble with the link? Simply copy and paste the entire address listed below into your web

browser: <http://www.cvent.com/d/hXyj6LwLJku4PhdOT7iv0w/8741/P1/1Q?>

If you no longer want to receive emails from American Petroleum Institute please click the link below.
[Opt-Out](#)



From: [Holly Hopkins](#)
To: [Scott Angelle](#); Evan@offshoreoperators.com
Cc: [Beard, Preston](#)
Subject: RE: BAST Production Equipment List-.docx
Date: Thursday, January 24, 2019 9:33:02 AM

Scott,

Hope you had a great holiday and are surviving the government shutdown. Industry is working on our review of the BAST production list and hope to have our comments by the requested February 15th date. Assuming the government has resumed full operations by that time we are prepared to meet in New Orleans on February 14 or 15 or Washington, DC on February 21 or at a later date that is convenient for you. Please let us know.

Thanks,
Holly and Evan

-----Original Message-----

From: Scott Angelle <scott.angelle@bsee.gov>
Sent: Wednesday, December 5, 2018 5:37 AM
To: Evan@offshoreoperators.com; Holly Hopkins <hopkinsh@api.org>
Subject: BAST Production Equipment List-.docx

Good morning. Thank you for providing your work product on your review of the drilling equipment you concluded are subject to BAST. BSEE subject matter experts have been assigned to review and respond.

I am attaching a document that these same subject matter experts have prepared relative to production equipment they believe could be subject to BAST.

BSEE is committed to continuing its recent efforts to elevate solutions to BAST.

From: [Scott Angelle](#)
To: [Holly Hopkins](#)
Cc: [Evan@offshoreoperators.com](#); [Beard, Preston](#)
Subject: Re: [EXTERNAL] RE: BAST Production Equipment List-.docx
Date: Friday, January 25, 2019 7:02:48 PM

Thank you very much. Preston please schedule for February 21 in dc.
Holly and Evan thanks for your interest in a safe ocs

Sent from my iPhone

> On Jan 24, 2019, at 9:32 AM, Holly Hopkins <hopkinsh@api.org> wrote:

>

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>

> Hope you had a great holiday and are surviving the government shutdown. Industry is working on our review of the BAST production list and hope to have our comments by the requested February 15th date. Assuming the government has resumed full operations by that time we are prepared to meet in New Orleans on February 14 or 15 or Washington, DC on February 21 or at a later date that is convenient for you. Please let us know.

>

> Thanks,

> Holly and Evan

>

> -----Original Message-----

> From: Scott Angelle <scott.angelle@bsee.gov>

> Sent: Wednesday, December 5, 2018 5:37 AM

> To: Evan@offshoreoperators.com; Holly Hopkins <hopkinsh@api.org>

> Subject: BAST Production Equipment List-.docx

>

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>

> BSEE is committed to continuing its recent efforts to elevate solutions to BAST.

From: scott.angel@bsee.gov
To: hopkins@api.org
Subject: Invitation: BAST Meeting @ Thu Feb 21, 2019 1pm - 2pm (EST) (hopkins@api.org)
Attachments: [null.ics](#)

more details > <https://www.google.com/calendar/event?action=VIEW&cid=N2Y0MnBvYzhwYjFsYmhhxbjVlMmFia3NiOGwgaG9wa2luc2hAYXBpLn0yZw&tok=MjJjc2NvdHQuYW5uZWxzZUJic2VILmdvdjUzZjBhNTYxNTMxYWQZmErYjA3NzBhMjc3NDhYjFjYWwRiMjU4YzZM&ctz=America%2FNew_York&hl=en&es=0>

BAST Meeting
When Thu Feb 21 2019 1pm – 2pm Eastern Time - New York

Video call <https://meet.google.com/ldv-ldv-ldv>

Calendar [hopkins@api.org](https://api.org)

Who • scott.angel@bsee.gov - organizer

• preston.beard@bsee.gov - creator

• hopkins@api.org

Going (hopkins@api.org)? Yes <https://www.google.com/calendar/event?action=RESPOND&cid=N2Y0MnBvYzhwYjFsYmhhxbjVlMmFia3NiOGwgaG9wa2luc2hAYXBpLn0yZw&tok=MjJjc2NvdHQuYW5uZWxzZUJic2VILmdvdjUzZjBhNTYxNTMxYWQZmErYjA3NzBhMjc3NDhYjFjYWwRiMjU4YzZM&ctz=America%2FNew_York&hl=en&es=0>

- Maybe <https://www.google.com/calendar/event?action=RESPOND&cid=N2Y0MnBvYzhwYjFsYmhhxbjVlMmFia3NiOGwgaG9wa2luc2hAYXBpLn0yZw&tok=MjJjc2NvdHQuYW5uZWxzZUJic2VILmdvdjUzZjBhNTYxNTMxYWQZmErYjA3NzBhMjc3NDhYjFjYWwRiMjU4YzZM&ctz=America%2FNew_York&hl=en&es=0>

- No <https://www.google.com/calendar/event?action=RESPOND&cid=N2Y0MnBvYzhwYjFsYmhhxbjVlMmFia3NiOGwgaG9wa2luc2hAYXBpLn0yZw&tok=MjJjc2NvdHQuYW5uZWxzZUJic2VILmdvdjUzZjBhNTYxNTMxYWQZmErYjA3NzBhMjc3NDhYjFjYWwRiMjU4YzZM&ctz=America%2FNew_York&hl=en&es=0>

- more options > <https://www.google.com/calendar/event?action=VIEW&cid=N2Y0MnBvYzhwYjFsYmhhxbjVlMmFia3NiOGwgaG9wa2luc2hAYXBpLn0yZw&tok=MjJjc2NvdHQuYW5uZWxzZUJic2VILmdvdjUzZjBhNTYxNTMxYWQZmErYjA3NzBhMjc3NDhYjFjYWwRiMjU4YzZM&ctz=America%2FNew_York&hl=en&es=0>

Invitation from Google Calendar <<https://www.google.com/calendar/>>

You are receiving this courtesy email at the account hopkins@api.org because you are an attendee of this event.

To stop receiving future updates for this event, decline this event. Alternatively you can sign up for a Google account at <https://www.google.com/calendar/> and control your notification settings for your entire calendar.

Forwarding this invitation could allow any recipient to modify your RSVP response. Learn More <<https://support.google.com/calendar/answer/37135#forwarding>> .

From: [Holly Hopkins](#)
To: scott.angelle@bsee.gov
Subject: Accepted: Invitation: BAST Meeting @ Thu Feb 21, 2019 1pm - 2pm (EST) (hopkinsh@api.org)

When: Feb 21, 2019 1:00:00 PM

From: [Holly Hopkins](#)
To: [Beard, Preston](#); [Scott Angelle](#)
Cc: [Evan@offshoreoperators.com](#)
Subject: Re: [EXTERNAL] RE: BAST Production Equipment List-.docx
Date: Sunday, January 27, 2019 9:21:42 PM

Thanks

----- Original message -----

From: "Beard, Preston" <preston.beard@bsee.gov>
Date: 1/27/19 9:02 PM (GMT-05:00)
To: Scott Angelle <scott.angelle@bsee.gov>
Cc: Holly Hopkins <hopkinsh@api.org>, Evan@offshoreoperators.com
Subject: Re: [EXTERNAL] RE: BAST Production Equipment List-.docx

Set from 1-2 on the 21.

On Fri, Jan 25, 2019 at 7:02 PM Scott Angelle <scott.angelle@bsee.gov> wrote:

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> Thanks,

> Holly and Evan

>

> -----Original Message-----

> From: Scott Angelle <scott.angelle@bsee.gov>

> Sent: Wednesday, December 5, 2018 5:37 AM

> To: Evan@offshoreoperators.com; Holly Hopkins <hopkinsh@api.org>

> Subject: BAST Production Equipment List-.docx

>

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> I am attaching a document that these same subject matter experts have prepared relative to production equipment they believe could be subject to BAST.

>

> BSEE is committed to continuing its recent efforts to elevate solutions to BAST.

--

Preston Beard
Advisor, Office of the Director
Bureau of Safety and Environmental Enforcement
(202) 208-3976 (o)
(571) 585-7001 (c)
preston.beard@bsee.gov



From: [American Petroleum Institute](#)
To: [Scott Angelle](#)
Subject: Reminder - Invitation to the COS Workshop - Guidance for a Robust Safety Culture
Date: Thursday, January 31, 2019 11:02:09 AM

Dear Scott,

You have not RSVPed to the COS Workshop - Guidance for a Robust Safety Culture on Wednesday, February 13, 2019.

To RSVP, please click either [Yes](#) or [No](#) by Monday, February 11, 2019. We look forward to your response.

Sincerely,
American Petroleum Institute

registrar@api.org

If you no longer want to receive emails from American Petroleum Institute, please [Opt-Out](#)



From: [Holly Hopkins](#)
To: [Doug Morris \(douglas.morris@bsee.gov\)](#)
Cc: [Lars Herbst \(lars.herbst@bsee.gov\)](#); [scott.angelle@bsee.gov](#); [Schwing, Paul](#)
Subject: API 4Q 2018 Report to BSEE on subsea bolts & fasteners
Date: Thursday, January 31, 2019 3:35:36 PM
Attachments: [API 4Q Bolt Letter to BSEE.pdf](#)

Doug,

Attached please find the API 4Q 2018 Report to BSEE on subsea bolts and fasteners. This is a detailed and comprehensive update to track the progress of implementation of the voluntary industry actions to address the issues related to subsea bolts and fasteners. We look forward to discussing those details and the report on February 5. If you have any questions, please contact me.

Thanks,

Holly A. Hopkins
Sr. Policy Advisor, Upstream
American Petroleum Institute
1220 L Street, NW
Washington, DC 20005
202-682-8439 Tel
hopkinsh@api.org



This transmission contains information that is privileged and confidential and is intended solely for use of the individual(s) listed above. If you received the communication in error, please notify me immediately. Any dissemination or copying of this communication by anyone other than the individual(s) listed above is prohibited.



Holly A. Hopkins
Senior Policy Advisor

1220 L Street, NW
Washington, DC 20005-4070
USA
Phone: 202-682-8439
Fax: 202-682-8426

Email hopkinsh@api.org
www.api.org

January 31, 2019

Doug Morris
Chief Office of Offshore Regulatory Programs
Bureau of Safety and Environmental Enforcement
U.S. Department of the Interior
1849 C Street, NW
Washington, DC 20240

Via email

Dear Mr. Morris:

As part of API and Industry's commitment to improving training, operating procedures, technology and industry standards, attached is a detailed and comprehensive update showing progress of the voluntary actions taken by Industry to address issues related to subsea bolts and fasteners. As we have discussed, this is ongoing work and progress will be reported as new information becomes available. Notably we have made progress on the near-term commitment, which entails replacing all critical bolting having a hardness greater than 35HRC. One hundred percent of our BOPs have the required replacement bolting ordered and 93% have completed the replacement for all active BOPs in the Gulf of Mexico. The attached documents show progress made by Industry on the following bolting topics:

- Research sponsored by API related to this topic;
- Activity by the standards task groups and subcommittees to implement the recommendations in the API Multi Segment Task Group Report on Bolting Failures;
- Voluntary industry adoption of API 20 E/F for critical BOP bolting;
- Voluntary industry replacement of critical bolting having a hardness of >35 HRC;
- Enhanced QAQC of 3rd party manufactured bolting (i.e., sampling, 20 E/F requirements);
- Updated make-up procedures, with additional engineering rigor and oversight;
- Elimination of electroplated Zinc coatings for subsea/marine applications; and
- Enhanced failure reporting with wider distribution.

API appreciates the opportunity to work with BSEE to continue discussing our shared objective of safe operations. As can be seen by the significant progress we've made as an Industry since 2016, we believe that by working in a spirit of cooperation, we can better understand how to best achieve our common goals and, thus, implement actions to help reach our shared safety objectives. We look forward to

discussing this report in detail during our February 5, 2019, teleconference. If you have any questions in the meantime, please contact me by phone at (202)682-8439, or by e-mail at hopkinsh@api.org.

Sincerely,

A handwritten signature in blue ink, reading "Holly A. Hopkins". The signature is fluid and cursive, with the first name "Holly" being the most prominent.

Holly A. Hopkins

cc: Lars Herbst, GOM Regional Director

Attachment



AMERICAN PETROLEUM INSTITUTE

January 2019

API 4Q 2018 UPDATE ON INDUSTRY ACTIVITIES ON SUBSEA BOLTS AND CONNECTORS

Background

On August 11, 2014 the Bureau of Safety and Environmental Enforcement (BSEE) released a technical Review of Connector and Bolt Failures following the failure of connectors and bolts used in critical equipment. The technical review, entitled Evaluation of Connector and Bolt Failures, was completed by the bureau's Quality Control-Failure Incident Team (QC-FIT) and submitted to BSEE Director Brian Salerno. The objective of the technical assessment was to document and evaluate failures of the connectors, studs and other components used in critical equipment and determine if there were industry wide issues that need to be addressed by the industry or BSEE. This report addressed a December 2012 incident which prompted a global recall of the bolts associated with the H4 connector bolts.

In response to the QC-Fit Report, API held a Technical Session during the API Exploration and Production Winter Standards Meeting in New Orleans on January 27, 2015. BSEE was invited by API to present their report findings and recommendations. After the Technical Session, an API multi-segment task group was formed to review the detailed recommendations in the report and determine next steps. The final report of the task group was shared with BSEE in March of 2016 and is now being implemented.

An incident in February of 2014 involving a lower marine riser package (LMRP) connector leak prompted BSEE to issue an Addendum to the QC-FIT report, with the new information from this incident.

As a result of these ongoing incidents BSEE issued a Safety Alert regarding Connector and Bolt Failures on February 2, 2016. Additionally, BSEE held a public forum on offshore connector equipment failures, including connector bolt failures that have occurred on the OCS, on August 29, 2016, in Washington, DC.

To address the February 2016 safety alert API formed a workgroup which has met with BSEE numerous times to improve safety offshore as it relates to bolts. This work focuses on subsea BOP bolting and 4 specific areas: 1) Materials/Standards; 2) QA/QC – API Monogram Program; 3) Operations; and 4) Research.

API provides this detailed and comprehensive update to track the progress and implementation of the voluntary industry actions to address the issues related to subsea bolts and connectors. This is ongoing work that may evolve as new information becomes available and this is the tenth of regular quarterly reports.

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
1	Research	API sponsored research	<p>API has approved a 2017 project to perform testing to determine susceptibility to environmental hydrogen embrittlement of selected materials and coatings. Initial testing has been completed on API 20E bolting material for susceptibility to hydrogen embrittlement under cathodic protection in simulated seawater and is under review by SC21. Testing is in progress for the first sample group which is testing of zinc and alternatives to zinc electroplating coatings. Testing is expected to be completed in 2019. A second set of samples is in planning.</p> <p>In addition, API has conducted 4 projects related to hydrogen embrittlement and 21 projects related to corrosion resistant alloys.</p>
2	Materials and Standards	API 6A 21st Edition	Published November 2018.
		API 6D 25th Edition	Being drafted. TG has agreed to make mandatory the use API 20E BSL-1 and 20E BSL-2 for all pressure boundary bolting.
		API 6DSS 3rd Edition	Requires API 20E and API 20F for all pressure boundary bolts in the document published August 2017.
		API 16A 4th Edition	4 th edition with addendum 1 is published. HPHT annex is out for second ballot with a closing date of February 14 th . Addendum 3, which addresses QTC issues, operator qualification testing, and BSR testing requirements, is in comment resolution.
		API 16AR 1st Edition	Bolting conforming to API 20E or API 20F is a requirement for pressure controlling bolting, closure bolting and pressure retaining bolting in the document published April 2017. Addendum is being developed to correct errors to allow the standard to be included in the registration program.
		API 16B 1st Edition	Currently under development and is expected to adopt the TGR-3 bolting recommendations and text to meet 20E or 20F.
		API 16C 3rd Edition	Currently in comment resolution. For subsea bolting, the document requires BSL3 as per 20E or 20F as applicable.
		API 16F 2nd Edition	Published November 2017. Requires API 20E or API 20F bolting. Addendum 1 is in development.

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		API 16ST 2nd Edition	Currently under development.
		API 17D 3rd Edition	Being drafted and is considering the TGRs.
		API 17G 3rd Edition	3rd Edition ballot reached consensus Jan 2019. API 20E & 20F adopted as normative references. Requires API 20E or API 20F BSL-3 for critical bolting. Critical bolting is defined as bolting used to assemble/join wellbore pressure-containing parts (including end and outlet connections) or pressure-retaining parts whose failure would result in a release of wellbore fluid to the environment.
		API 17TR8 2nd Edition	Published March 2018.
		API 20E 2nd Edition	Published February 2017. An addendum was published allowing for the addition of other product geometries. Another addendum is in final review (to allow qualification of NDE subcontractors based on ISO 17020) and is expected to be published in January 2019. The remaining issue (allowing continuous cast for BSL3) has been considered by a work group but remains open.
		API 20F 2nd Edition	Published May 2018.
		API 53 5th Edition	Published December 2018. Includes proposed requirements for the periodic replacement of existing subsea bolting that conforms to the latest editions of 16C and 16A.
		API 64 3rd Edition	Published August 2017. Addendum in publication.
		API Q1, 9th Edition, Addendum 2	Published June 2018.

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
3	TG Recommendations	<p>TGR-1 - SC21</p> <p>TG notes that there is conflict between B633 and F1941 related to requirements for hydrogen embrittlement mitigation. B633 requires stress-relief and bake for product greater than 31 HRC. F1941 does not require stress-relief and requires bake for product greater than 39 HRC. API should contact ASTM to request resolution of this conflict. If this cannot be achieved through ASTM, then API needs to issue an equivalent document under API through SC21. In either case, the revised or new document will then need to be adopted by product SCs. This work should also include requirements for maximum hardness on bolting material.</p>	<p>ASTM Subcommittee B08 has passed a revision to B633 (bake threshold 31 HRC) to make B633 essentially consistent with F1941 (bake threshold 39 HRC) about hydrogen embrittlement prevention requirements. The revision is in final ASTM review. Publication is expected in late January or February 2019. (See also actions under TGR-4 and TGR-18.)</p>
		<p>TGR-3 - SC21</p> <p>TG recommends prohibiting Zinc electroplating for Subsea/Marine application. TG further recommends that an investigation be conducted under the direction of SC21 to determine a better short term (storage) corrosion protection system that would not create hydrogen in service. The results of this study would then need to be adopted into product standards.</p>	<p>Phase 1 testing (SnZn, ZnNi, Zn Flake, TDC Zn Alloy, NiCo Electroplated Zn) is in progress. Initial results are expected in January for review by the SC21 subgroup on coating. Testing is expected to take about a year. Interim results will be released as they become available.</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p style="text-align: center;">TGR-4 - SC21</p> <p>TG recommends consideration of an overarching document issued by API through SC21 in cooperation with product SCs covering selection of proper bolting materials for different environments (including subsea) would be helpful.</p>	<p>API 21TR1 is in final review. Publication is expected in January 2019.</p>
		<p style="text-align: center;">TGR-8 - SC21</p> <p>Do not allow use of B7 or L7 grades above 2.5" in diameter. TG recommends that this be included as part of the overarching document under SC21.</p>	<p>Completed.</p> <p>Do not allow the use of ASTM A320 L7/ASTM A193 B7 bolting for diameters above 2 ½ inches unless the DI of the material is intentionally modified. (The recommendation has been provided to SC6, SC16 and SC17 and will also be covered in API 21TR1.)</p>
		<p style="text-align: center;">TGR-18 - SC21</p> <p>Product subcommittees should review and consider incorporating 20E and 20F requirements (resolve existing conflicting properties specified in product specifications such as hardness).</p>	<p>*Ties into TGR-1* (This work is in response to the TGR-1 request to establish maximum hardness for bolting material.)</p> <p>Objective is to identify hardness and associated yield limit to prevent HISC in subsea fasteners. Testing is completed for the first set of specimens. The first specimens are API 20E BSL3 compliant material. The subgroup is reviewing results and will report these to the main task group and subcommittee when ready. Work is still in progress to obtain API 20E BSL2 compliant material for the second group of specimens. Testing is expected to be completed by the second quarter of 2019.</p> <p>The new Subgroup with a charge to provide recommendations for improved accuracy of hardness testing and calculation of test uncertainty is meeting regularly. An initial report of the groups work is expected by the SC21 Task Group January meeting during the winter conference. A round robin hardness testing program to support the report has been completely planned, actual testing is expected to be completed 1st quarter 2019.</p> <p>A fifth Subgroup was formed to investigate thread hardness on corrosion resistant alloys. The group met and prepared a test plan. The group's request for API funding for testing was approved. Testing will begin 1st quarter 2019.</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		TGR-2 - SC20 TG recommends that API expand 20E to more adequately cover the requirements of plating and coating as well as move the supplemental requirements for plating and coating into the body of the document, making them standard requirements.	Done.
		TGR-9 - SC20 TG recommends that volumetric examination where bolt diameter exceeds 2.5" should be added as a requirement to 20E, 20F, BSL-2, and BSL-3.	Done for API 20E. Done for API 20F.
		TGR-11 - SC20 Revise 20F to restrict use of sulfur based lubricants during manufacture of bolting.	Done for API 20F.
		TGR-17 - SC20 Strengthen heat treating and furnace loading requirements in 20E and 20F (more prescriptive requirements related to: spacing, QTC location, and thermocouple placement). Include requirements for oven calibration for pre and post bake operations.	Done for API 20E. Done for API 20F.
		TGR-20 - SC20 SC20 review the supplier controls in 20E and 20F to ensure these adequately cover required controls for subcontracted processes. SC 20 should also monitor the API Q1 revisions.	Done for API 20E. Done for API 20F.
		TGR-19 - SC18 SC18 to form a TG to review the BSEE FIT-QC Report on connector bolt failures to determine if the current requirements of API Spec Q1 has the provisions needed to ensure that system control features are in place, and clearly stated, to eliminate these type of failures in the future.	Done, TG formed.

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p>TGR-3 - SC17</p> <p>TG recommends prohibiting Zinc electroplating for Subsea/Marine application. TG further recommends that an investigation be conducted under the direction of SC21 to determine a better short term (storage) corrosion protection system that would not create hydrogen in service. The results of this study would then need to be adopted into product standards.</p>	<p>Completed. 17D, 3rd Edition is adopting 20E/20F in the Normative Reference, for which TGR-3 has been incorporated.</p>
		<p>TGR-5/TGR-12 - SC17</p> <p>-TG recommends that the product specifications require equipment manufacturers to specify acceptable thread compounds for bolting applications based on material, plating and service.</p> <p>-TG recommends adding requirements to API product specifications to restrict combining these elements in thread compounds.</p>	<p>Completed. 17D 3rd Edition Annex G is addressing:</p> <ol style="list-style-type: none"> 1. Written procedures, incorporating the features of these provisions and specifying the thread lubricant to be used shall be developed for use by the qualified connection assemblers 2. The applied torque/tension in the written procedures shall be validated for some relevant bolt sizes with actual material, coating and lubrication
		<p>TGR-6 - SC17</p> <p>Torqueing requirements should be reviewed to determine if standardization among product specifications is needed.</p>	<p>Completed. 17D 3rd Edition Annex G is addressing:</p> <ol style="list-style-type: none"> 1. Standard closure bolting shall be assembled using torque or other validated bolt preload method that is calculated to achieve a nominal tensile stress of 67 % of the bolt's minimum specified material yield strength (SY). This is to ensure gasket seating during make-up and increase face-to-face contact preload in excess of separation forces at rated working pressure.
		<p>TGR-13 - SC17</p> <p>Guidance should be issued by API on when and how to perform fatigue sensitivity analysis on bolting.</p>	<p>CSOEM approved 2-year research project in SC21 to investigate fatigue properties of bolting. Production of test bolting is expected to be completed in October 2018 with testing to be begin shortly thereafter.</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p style="text-align: center;">TGR-14 - SC17</p> <p>Involved API SC's should address guidance issued in the product specs to require use of BSL-3 in fatigue sensitive applications.</p>	<p>CSOEM approved 2-year research project in SC21 to investigate fatigue properties of bolting. Production of test bolting is expected to be completed in October 2018 with testing to be begin shortly thereafter.</p>
		<p style="text-align: center;">TGR-16 - SC17</p> <p>TG recommends API issue a document to provide guidance on derating of bolting. There are several specifications on material derating due to elevated temperature.</p>	<p>SC17 currently in ongoing discussion with 17D HPHT Annex.</p>
		<p style="text-align: center;">TGR-18 - SC17</p> <p>Product subcommittees should review and consider incorporating 20E and 20F requirements (resolve existing conflicting properties specified in product specifications such as hardness).</p>	<p>Completed. 17D 3rd Edition is adopting 20E/20F in the Normative Reference</p>
		<p style="text-align: center;">TGR-3 - SC16</p> <p>TG recommends prohibiting Zinc electroplating for Subsea/Marine application. TG further recommends that an investigation be conducted under the direction of SC21 to determine a better short term (storage) corrosion protection system that would not create hydrogen in service. The results of this study would then need to be adopted into product standards.</p>	<p>16C - For subsea bolting, the document requires BSL3 as per 20E or 20F as applicable.</p> <p>16A - Completed</p> <p>16ST - The 2nd Edition of API RP 16ST is currently under development and is debating whether or not to adopt the TGR-3 bolting recommendations and text to meet 20E or 20F as this equipment is for surface use only.</p> <p>16B - The 1st Edition of API Spec 16B is currently under development and is debating whether or not to adopt the TGR-3 bolting recommendations and text to meet 20E or 20F as this equipment is for surface use only.</p> <p>16D – Completed; will not be included.</p> <p>16F - Completed</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p>TGR-5/TGR-12 - SC16</p> <p>TG recommends that the product specifications require equipment manufacturers to specify acceptable thread compounds for bolting applications based on material, plating and service.-TG recommends adding requirements to API product specifications to restrict combining these elements in thread compounds.</p>	<p>16C – Is expected to be addressed in the 4th edition (next revision).</p> <p>16A - Completed</p> <p>16ST - The 2nd Edition of API RP 16ST is currently under development and is expected to reference the recommendations to be contained in operating manuals of Spec 16B equipment, including assembly and disassembly information, as well as flange make-up procedure (requirements for lubricant, torque, tightening pattern, percentage increments for torque, etc.)</p> <p>16B - The 1st Edition of API Spec 16B is currently under development and is expected to contain the following requirement for all operating manuals of 16B equipment: assembly and disassembly information that includes flange make-up procedure that includes requirements for lubricant, torque, tightening pattern, percentage increments for torque, etc.</p> <p>16D - Will discuss this in the 4th Edition or via addendum if deemed necessary.</p>
		<p>TGR-6 - SC16</p> <p>Torqueing requirements should be reviewed to determine if standardization among product specifications is needed.</p>	<p>16C - Will be addressed in the 4th edition (next revision).</p> <p>16A - Completed</p> <p>16ST - The 2nd Edition of API RP 16ST is currently under development and is expected to reference the recommendations to be contained in operating manuals of Spec 16B equipment, including assembly and disassembly information, as well as flange make-up procedure (requirements for lubricant, torque, tightening pattern, percentage increments for torque, etc.)</p> <p>16B - The 1st Edition of API Spec 16B is currently under development and is expected to contain the following requirement for all operating manuals of 16B equipment: assembly and disassembly information that includes flange make-up procedure that includes requirements for lubricant, torque, tightening pattern, percentage increments for torque, etc.</p> <p>16D - Will discuss this in the 4th Edition or via addendum if deemed necessary.</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p>TGR-13 - SC16</p> <p>Guidance should be issued by API on when and how to perform fatigue sensitivity analysis on bolting.</p>	<p>16A - API 16A 4th edition does not currently contain requirements for fatigue analysis. The HPHT workgroup included this requirement.</p> <p>16ST - The 2nd Edition of API RP 16ST is currently evaluating the specific locations within the assembly of well control components where fatigue analysis of bolting is needed, especially in assembly of coiled tubing and snubbing well control components.</p> <p>16B - The 1st Edition of API Spec 16B is currently evaluating the need for fatigue analysis of bolting, especially in assembly of coiled tubing and snubbing well control components.</p> <p>16D – Completed - Task group has not noted any areas where fatigue sensitivity analysis is deemed necessary.</p> <p>16F - API 16F does not currently contain requirements for fatigue analysis.</p>
		<p>TGR-14 - SC16</p> <p>Involved API SC’s should address guidance issued in the product specs to require use of BSL-3 in fatigue sensitive applications.</p>	<p>16C - Completed</p> <p>16A - Completed</p> <p>16ST - BSL-3 is expected to be required in the 1st Edition of API Spec 16B for all closure bolting and pressure retaining bolting intended for offshore applications.</p> <p>16B - BSL-3 is expected to be required in the 1st Edition of API Spec 16B for all closure bolting and pressure retaining bolting intended for offshore applications.</p> <p>16D – Completed - Task group has not noted areas of fatigue sensitive applications to date.</p> <p>16F - Completed</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p>TGR-15 - SC16</p> <p>TG recommends revision to API S53 to define a standard method for calculating watch circle.</p>	<p>Completed - S53 Will not incorporate this recommendation as it is outside the scope of S53.</p>
		<p>TGR-16 - SC16</p> <p>TG recommends API issue a document to provide guidance on derating of bolting. There are several specifications on material derating due to elevated temperature.</p>	<p>16A - Currently, this is only addressed in: API TR 6AF1 Technical Report on TemperatureDerating on API Flanges Under Combination of Loading. Note: 16A, 3rd edition only has temperature ratings up to 250F. The referenced 6AF1 provides guidance for derating based on temperature beginning at 350F. Temperature derating is primarily a concern in HPHT applications. This is expected to be addressed in the new 16A HPHT annex.</p> <p>16ST - The 2nd Edition of API RP 16ST is currently evaluating the need for derating of bolting due to bending stresses and temperature, especially in assembly of coiled tubing and snubbing well control components.</p> <p>16B - The 1st Edition of API Spec 16B is currently evaluating the need for derating of bolting due to bending stresses and temperature, especially in assembly of coiled tubing and snubbing well control components.</p> <p>16D – Completed – Task group has not identified any areas of our specification that would be affected by elevated temperatures.</p> <p>16F - HPHT is expected to be addressed in the next edition.</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p>TGR-18 - SC16</p> <p>Product subcommittees should review and consider incorporating 20E and 20F requirements (resolve existing conflicting properties specified in product specifications such as hardness).</p>	<p>16C - Completed</p> <p>16A - Completed</p> <p>16ST - The 2nd Edition of API RP 16ST is debating whether to incorporate 20E and 20F requirements.</p> <p>16B - The 1st Edition of API Spec 16B is debating whether or not to incorporate 20E and 20F requirements.</p> <p>16D - Completed - Decided not to require them for the 3rd edition. Manufacturers will be required to provide documented bolting specifications where applicable.</p> <p>16F - Completed</p>
		<p>TGR-3 - SC6</p> <p>TG recommends prohibiting Zinc electroplating for Subsea/Marine application. TG further recommends that an investigation be conducted under the direction of SC21 to determine a better short term (storage) corrosion protection system that would not create hydrogen in service. The results of this study would then need to be adopted into product standards.</p>	<p>6A 21st – Completed</p> <p>API 6DSS 3rd - Completed</p>
		<p>TGR-5/TGR-12 - SC6</p> <p>-TG recommends that the product specifications require equipment manufacturers to specify acceptable thread compounds for bolting applications based on material, plating and service.</p> <p>-TG recommends adding requirements to API product specifications to restrict combining these elements in thread compounds.</p>	<p>6A 21st – Completed</p> <p>6DSS 3rd – Completed.</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p>TGR-6 - SC6</p> <p>Torqueing requirements should be reviewed to determine if standardization among product specifications is needed.</p>	<p>6A 21st – Completed</p>
		<p>TGR-7/TGR-10 - SC6</p> <p>TG recommends modification of 6A to require impact testing at or below design temperature w/ acceptance criteria for larger cross section bolting (over 2.5").</p>	<p>6A 21st – Completed</p> <p>6DSS 3rd – Completed.</p>
		<p>TGR-13 - SC6</p> <p>Guidance should be issued by API on when and how to perform fatigue sensitivity analysis on bolting.</p>	<p>See TGR-14</p>
		<p>TGR-14 - SC6</p> <p>Involved API SC's should address guidance issued in the product specs to require use of BSL-3 in fatigue sensitive applications.</p>	<p>6A 21st – Completed. Fatigue loading is outside the document scope. Annex B guides purchaser to define fatigue application of a product.</p>
		<p>TGR-16 - SC6</p> <p>TG recommends API issue a document to provide guidance on derating of bolting. There are several specifications on material derating due to elevated temperature.</p>	<p>6A 21st – Completed</p> <p>6DSS 3rd – Not applicable to this specification.</p>

Progress on Research, Materials/Standards and QA/QC

		Topic	Discussion
		<p>TGR-18 - SC6</p> <p>Product subcommittees should review and consider incorporating 20E and 20F requirements (resolve existing conflicting properties specified in product specifications such as hardness).</p>	<p>6A 21st – Completed</p> <p>6D 25th</p> <p>Plans are to make 20E BSL-1 and 20F BSL-2 will be mandatory for all pressure boundary bolting on the next revision in late 2019.</p> <p>6DSS 3rd – Completed.</p>
4	QAQC	API Q1 9th Edition, Addendum 2	Published June 2018.

Topic	Discussion	OEM 1	OEM 2	OEM 3	OEM 1 Comments	OEM 2 Comments	OEM 3 Comments
2017 Deliverables							
1	Bulletin identifying critical BOP bolting > 35 HRC	Attach any EB/PNI identifying critical bolting > 35 HRC	Completed - February 2016	Completed - February 24, 2016	Completed - October 2016	Product Notification & Improvement 16-008 issued 9/2016 Product Notification & Improvement 16-009 issued 9/2016 Product Notification & Improvement 16-010 issued 10/2016	Product Information Bulletin D4516545916 Released February 24, 2016 PA 40832 was generated in response to BSEE Safety Alert 318. Company does not provide bolts for pressure containing/pressure controlling with hardness greater than 35 HRC. See attachment. Revision 2 of PA 40832 was released in 12/2016 to communicate that Engineering Bulletin 962D (Torque guidance for critical bolting) was released and Company uses FPR to investigate field issues and uses Product Advisory or Product Safety Alerts to communicate issues to Company equipment owners.
2	Part Numbers for API 20 E/F replacement Bolting for critical BOP bolting > 35 HRC	Attach any EB/PNI identifying part numbers for critical bolting > 35 HRC	Completed - NA	Completed - 2016	Completed - October 2016	Product Notification & Improvement 16-008 issued 9/2016 Product Notification & Improvement 16-009 issued 9/2016 Product Notification & Improvement 16-010 issued 10/2016	All replacement bolting for critical BOP bolting meet API 20E BSL-3 Company has generated critical bolting part numbers for compliance to API 20E, BSL-3. These are available to our customers and more are being generated as needed. A few part numbers have been set up for 20F at this moment as CRA bolting is not normally provided in BOP equipment for critical bolting. See attachment with sample bolting part numbers.
3	Bulletin updating Torque Application	Attach any EB/PNI identifying updated Torque guidance for critical bolting	Completed - March 2016	Completed - February 24, 2016	Completed	Torque procedures issued. Operating procedures updated.	D4516545916 Release February 24, 2016. Torque revision 02 is out in 1/2017 EB-962D, released on March 2016. See attachment.
4	Internal process for enhanced failure reporting of critical bolting	Attach any example of updated failure reporting process. Attach any example of enhanced failure reporting related to critical BOP bolting	Completed - 1990's	Completed	Completed	Failure reporting and tracking through our system. The reporting input from database to our system. The system provides feedback to customers through tracking responses, and drive analysis. External communication through Engineering Bulletin, Product Notification, Product Improvement, Customer Letters, etc.	Company has internal procedure called Field Performance Report (FPR) for capturing field performance failures of Company equipment. This FPR is the mechanism used to initiate an investigation and determine the Root Cause of the failure. In addition, Company has a system to communicate Product Advisories (PA) and Safety Alerts (SA) as well as Engineering Bulletins (EB) to our customers if deemed necessary resulting from an FPR investigation or internal reviews. The guidelines for these procedures are outlined in Company Engineering Procedure EP-307 (FPRs), CEP-030 (SAs/PAs) and EP-204 (EBs). These procedures are considered "Confidential" and cannot be distributed outside of Company.
5	Updated QAQC standards for bolt manufacturing	Attach any example of updated QA process	Completed - 1st	Completed	Completed - October 2016	QMS procedure improvements regarding supplier qualification. 20E vendor qualification and audit per family of fasteners, sub-tier supplier audit, review of mill audits. The supplier manufacturing process is locked and audited annually. Improved process incorporates supplier quality, engineering, quality teams and product documentation compliance to original qualification. Increased overall scrutiny on critical bolting incorporates engineering lockdown of parts and 3rd party onsite reviews.	Bolts specified to API 20E BSL-3. All our BSL bolting is only manufactured by vendors our QA department has physically audited and approved for critical fasteners. Per API 20E the manufacture of the finished part has to audit the mill producing the material for BSL. The documentation required of these vendors are as follows: Full Dimensional Inspection Report, Manufactures Material Test Report (Chemical and Mechanical), MPI Test Report, Ultrasonic Test Report, 100% Hardness Testing (If Serialized), Steel Certificate of Test from the Mill, Mechanical Testing by independent Lab to ensure the product from the mill meets the BSL Requirements (Only if manufacture did not buy direct from mill), Heat Treat Certification, Micro-Structure Examination with Photo, Macro-Structure Examination with Photo, and Plating Certification. Quality Plans (QP-000112-09) have been created for Pressure Containing and Primary Load Bearing Oil and Gas Equipment Used in Subsea Applications: API 6A, API 17D and API 20E. Bolting Specification BSL-3. QP-000112-09 is considered "Confidential" and cannot be distributed outside of Company.
2018-2023 Deliverables							
A1	Part numbers for API 20 E/F replacement bolting for all critical BOP bolting	Attach any EB/PNI identifying part numbers for critical bolting	Completed - December 2016	Completed	Completed - October 2016	Product Notification & Improvement 16-008 issued 9/2016 Product Notification & Improvement 16-009 issued 9/2016 Product Notification & Improvement 16-010 issued 10/2016	16543557-001, 16569565-001, 16569606-001, 165004, 16587680-001, 16587681-001, 16587682-001. All part numbers referenced in PIB D4516545196 Company has generated critical bolting part numbers for compliance to API 20E, BSL-3. These are available to our customers and more are being generated as needed. A few part numbers have been set up for 20F at this moment as CRA bolting is not normally provided in BOP equipment for critical bolting. See attachment with sample bolting part numbers. PA 40832 Rev 02 addresses this item.
A2	Replacement bolting coating specified	Attach any EB/PNI identifying replacement coating	Completed - December 2017	Completed	Completed - October 2016	Product Notification & Improvement 16-010 issued 10/2016	Zinc-Nickel Plate - Plate to ASTM F1941 Company is engaging different vendors to find alternatives to electrodeposited zinc plating. Update 04/19/2017 Action still in progress. Estimated completion date End of May 2017. Update 06/30/2017 Action still in progress. Estimated completion date end of August 2017 Update 10/15/2017 We have identified and qualified replacement coating. We are currently working to qualify vendors. Update 01/02/2018 we have qualified the vendors with replacement coating.

Summary of Progress on Equipment Owner Operations
(Q4, 2018)

Total Number of Active BOPs = 30			Not Started		In-Progress		Completed	
			Number	Percent	Number	Percent	Number	Percent
Item	Topic	Discussion						
2017 Deliverables								
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	0	0%	0	0%	30	100%
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	0	0%	2	7%	28	93%
3	Rig Procedure for torquing of critical bolting	Can include example rig procedure	0	0%	2	7%	28	93%
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	0	0%	0	0%	30	100%
5	MTR review for installed critical bolting:	Can include letter from OEM, example of MTR audit	0	0%	2	7%	28	93%
	- OEM SOF critical bolting per relevant specification		0	0%	0	0%	30	100%
	- MTRs per relevant specification		0	0%	2	7%	28	93%
	- Bolting audit to verify MTR information		0	0%	4	13%	26	87%
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	0	0%	4	13%	26	87%
2018-2023 Deliverables								
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	8	27%	5	17%	17	57%
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	12	40%	13	43%	5	17%

Percentages may not add up to 100% due to independent rounding

Item	Topic	Discussion	Rig 1 BOP 1	Rig 2 BOP 1	Rig 3 BOP 1	Rig 4 BOP 1
			Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	100%	100%	100%	NA
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	100%	100%	100%	NA
3	Rig Procedure for torquing of critical bolting	Can include example rig procedure	In-progress	Completed - July 15, 2014	In-progress	NA
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	2015 Training in Rig maint. Sys. 100% participation in GOM	Completed - July 20, 2016	2015 Training in Rig maint. Sys. 100% participation in GOM	NA
5	MTR review for installed critical bolting: - OEM SOF critical bolting per relevant specification - MTRs per relevant specification - Bolting audit to verify MTR information	Can include letter from OEM, example of MTR audit	Completed	Completed - July 15, 2014	Completed	NA
			PA 40832 from OEM	Completed - July 15, 2014	PA 40832 from OEM	NA
			Completed - October 2016	Completed - July 15, 2014	Completed - October 2016	NA
			Completed - October 2016	Completed - July 15, 2014	Completed - October 2016	NA
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	Completed - 2015	Completed - March 15, 2016	Completed - 2015	NA
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	plan to replace drill thru bolting in 2019	0%	plan to replace drill thru bolting in 2019	NA
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	0%	0%	0%	NA

			Rig 4 BOP 2	Rig 5 BOP 1	Rig 5 BOP 2	Rig 6 BOP 1
Item	Topic	Discussion	Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	NA	100%	100%	NA
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	NA	100%	100%	NA
3	Rig Procedure for torqueing of critical bolting	Can include example rig procedure	NA	Completed - March 9, 2015	Completed - March 9, 2015	NA
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	NA	Completed - July 20, 2016	Completed - July 20, 2016	NA
5	MTR review for installed critical bolting:	Can include letter from OEM, example of MTR audit	NA	Completed-May 31, 2018	Completed-March 13, 2018	NA
	NA		Completed-May 31, 2018	Completed-March 13, 2018	NA	
	NA		Completed-May 31, 2018	Completed-March 13, 2018	NA	
	NA		Completed-May 31, 2018	Completed-March 13, 2018	NA	
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	NA	Completed - March 15, 2016	Completed - March 15, 2016	NA
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	NA	0%	0%	NA
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	NA	0%	0%	NA

Item	Topic	Discussion	Rig 7 BOP 1	Rig 7 BOP 2	Rig 8 BOP 1	Rig 9 BOP 1
			Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	Completed - February 16, 2017	Completed - February 16, 2017	NA	100%
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	Completed - July 1, 2017	Completed - Jun 2017	NA	100%
3	Rig Procedure for torqueing of critical bolting	Can include example rig procedure	Completed - November 1, 2016	Completed - November 1, 2016	NA	Completed - Oct 4, 2016
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	Completed - November 1, 2016	Completed - November 1, 2016	NA	IOGP Failure reporting
5	MTR review for installed critical bolting: - OEM SOF critical bolting per relevant specification - MTRs per relevant specification - Bolting audit to verify MTR information	Can include letter from OEM, example of MTR audit	Completed - November 1, 2016	Completed - November 1, 2016	NA	Completed - January 2017
			Completed - November 1, 2016	Completed - November 1, 2016	NA	Completed
			Completed - November 1, 2016	Completed - November 1, 2016	NA	Completed
			Completed - November 1, 2016	Completed - November 1, 2016	NA	Completed
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	Completed - December 1, 2017	Completed - December 1, 2017	NA	Completed - April 2017
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	15%	15%	NA	100%
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	25%	65%	NA	100%

Item	Topic	Discussion	Rig 9 BOP 2	Rig 10 BOP 1	Rig 10 BOP 2	Rig 11 BOP 1
			Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	100%	100%	100%	NA
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	100%	100%	100%	NA
3	Rig Procedure for torqueing of critical bolting	Can include example rig procedure	Completed - Oct 5, 2016	Completed - March 9, 2015	Completed - March 9, 2015	NA
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	IOGP Failure reporting	Completed - July 20, 2016	Completed - July 20, 2016	NA
5	MTR review for installed critical bolting:	Can include letter from OEM, example of MTR audit	Completed - January 2017	Completed-February 26, 2018	Completed-August 16, 2018	NA
	- OEM SOF critical bolting per relevant specification		Completed	Completed-February 26, 2018	Completed-August 16, 2018	NA
	- MTRs per relevant specification		Completed	Completed-February 26, 2018	Completed-August 16, 2018	NA
	- Bolting audit to verify MTR information		Completed	Completed-February 26, 2018	Completed-August 16, 2018	NA
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	Completed - 2017	Completed - March 15, 2016	Completed - March 15, 2016	NA
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	100%	0%	0%	NA
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	100%	0%	0%	NA

Item	Topic	Discussion	Rig 12 BOP 1	Rig 12 BOP 2	Rig 13 BOP 1	Rig 14 BOP 1
			Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	NA	NA	100%	NA
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	NA	NA	100%	NA
3	Rig Procedure for torquing of critical bolting	Can include example rig procedure	NA	NA	Complete	NA
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	NA	NA	Completed - May 8, 2015	NA
5	MTR review for installed critical bolting:	Can include letter from OEM, example of MTR audit	NA	NA	In-progress	NA
	- OEM SOF critical bolting per relevant specification		NA	NA	Completed - February 24, 2016	NA
	- MTRs per relevant specification		NA	NA	Completed - May 4, 2016	NA
	- Bolting audit to verify MTR information		NA	NA	In-progress	NA
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	NA	NA	Completed - December 9, 2015	NA
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	NA	NA	0%	NA
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	NA	NA	0%	NA

Item	Topic	Discussion	Rig 14 BOP 2	Rig 15 BOP 1	Rig 15 BOP 2	Rig 16 BOP 1
			Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	NA	100%	100%	100%
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	NA	100%	100%	100%
3	Rig Procedure for torquing of critical bolting	Can include example rig procedure	NA	Completed	Completed	Completed
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	NA	Completed	Completed	IOGP BOP Reliability Database
5	MTR review for installed critical bolting:	Can include letter from OEM, example of MTR audit	NA	Completed	Completed	Completed - December 2016
	- OEM SOF critical bolting per relevant specification		NA	In Progress	In Progress	Completed
	- MTRs per relevant specification		NA	Completed	Completed	Completed
	- Bolting audit to verify MTR information		NA	Completed	Completed	Completed
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	NA	In-progress	In-progress	Completed
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	NA	100%	100%	100%
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	NA	7%	9%	90%

Item	Topic	Discussion	Rig 17 BOP 1	Rig 17 BOP 2	Rig 18 BOP 1	Rig 18 BOP 2
			Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	100%	100%	Completed - February 16, 2017	Completed - February 16, 2017
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	100%	100%	Completed - Jun 2017	Completed - May 1, 2017
3	Rig Procedure for torquing of critical bolting	Can include example rig procedure	Completed - March 9, 2015	Completed - March 9, 2015	Completed - November 1, 2016	Completed - November 1, 2016
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	Completed - July 20, 2016	Completed - July 20, 2016	Completed - November 1, 2016	Completed - November 1, 2016
5	MTR review for installed critical bolting: - OEM SOF critical bolting per relevant specification - MTRs per relevant specification - Bolting audit to verify MTR information	Can include letter from OEM, example of MTR audit	Completed Dec 5, 2017	Completed July 12, 2017	Completed - November 1, 2016	Completed - November 1, 2016
			Completed Dec 5, 2017	Completed July 12, 2017	Completed - November 1, 2016	Completed - November 1, 2016
			Completed Dec 5, 2017	Completed - July 12, 2017	Completed - November 1, 2016	Completed - November 1, 2016
			Completed Dec 5, 2017	Completed - June 12, 2017	Completed - November 1, 2016	Completed - November 1, 2016
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	Completed - March 15, 2016	Completed - March 15, 2016	Completed - December 1, 2017	Completed - December 1, 2017
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	10%	20%	Completed - February 16, 2017	Completed - February 16, 2017
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	0%	5%	Completed - December 2018	Completed - August 2018

Item	Topic	Discussion	Rig 19 BOP 1	Rig 20 BOP 1	Rig 21 BOP 1	Rig 21 BOP 2
			Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	NA	100%	Completed - February 16, 2017	Completed - February 16, 2017
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	NA	100%	Complete - Feb, 15, 2018	Complete - Mar, 15, 2018
3	Rig Procedure for torqueing of critical bolting	Can include example rig procedure	NA	Completed March 29, 2016	Completed - November 1, 2016	Completed - November 1, 2016
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	NA	Completed July 28, 2016	Completed - November 1, 2016	Completed - November 1, 2016
5	MTR review for installed critical bolting:	Can include letter from OEM, example of MTR audit	NA	Completed April 1, 2016	Completed - November 1, 2016	Completed - November 1, 2016
	- OEM SOF critical bolting per relevant specification		NA	Completed February 18, 2016	Completed - November 1, 2016	Completed - November 1, 2016
	- MTRs per relevant specification		NA	Completed April 1, 2016	Completed - November 1, 2016	Completed - November 1, 2016
	- Bolting audit to verify MTR information		NA	Completed April 1, 2016	Completed - November 1, 2016	Completed - November 1, 2016
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	NA	Completed April 1, 2016	Completed - December 1, 2017	Completed - December 1, 2017
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	NA	100%	Completed - March 1, 2018	Completed - March 1, 2018
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	NA	95%	Completed - August 2018	15%

			Rig 22 BOP 1	Rig 23 BOP 1	Rig 23 BOP 2	Rig 24 BOP 1
Item	Topic	Discussion	Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	NA	100%	100%	100%
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	NA	100%	100%	In-progress
3	Rig Procedure for torqueing of critical bolting	Can include example rig procedure	NA	Completed	Completed	Completed
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	NA	IOGP BOP Reliability Database	IOGP BOP Reliability Database	Completed
5	MTR review for installed critical bolting:	Can include letter from OEM, example of MTR audit	NA	Completed - December 2016	Completed - December 2016	Completed
	- OEM SOF critical bolting per relevant specification		NA	Completed	Completed	In Progress
	- MTRs per relevant specification		NA	Completed	Completed	In-progress
	- Bolting audit to verify MTR information		NA	Completed	Completed	In-progress
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	NA	Completed	Completed	In-progress
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	NA	100%	100%	100%
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	NA	80%	80%	0%

			Rig 24 BOP 2	Rig 25 BOP 1	Rig 26 BOP 1	Rig 26 BOP 2
Item	Topic	Discussion	Status	Status	Status	Status
	2017 Deliverables					
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	100%	NA	Completed - February 16, 2017	Completed - February 16, 2017
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	In-progress	NA	Completed - December 5, 2017	Completed - May 1, 2017
3	Rig Procedure for torquing of critical bolting	Can include example rig procedure	Completed	NA	Completed - November 1, 2016	Completed - November 1, 2016
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	Completed	NA	Completed - November 1, 2016	Completed - November 1, 2016
5	MTR review for installed critical bolting:	Can include letter from OEM, example of MTR audit	Completed	NA	Completed - November 1, 2016	Completed - November 1, 2016
	- OEM SOF critical bolting per relevant specification		In Progress	NA	Completed - November 1, 2016	Completed - November 1, 2016
	- MTRs per relevant specification		In-progress	NA	Completed - November 1, 2016	Completed - November 1, 2016
	- Bolting audit to verify MTR information		In-progress	NA	Completed - November 1, 2016	Completed - November 1, 2016
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	In-progress	NA	Completed - December 1, 2017	Completed - December 1, 2017
	2018-2023 Deliverables					
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	100%	NA	Completed - July 30, 2018	15%
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	10%	NA	15%	65%

			Rig 27 BOP 1	Rig 28 BOP 1
Item	Topic	Discussion	Comments	Status
	2017 Deliverables			
1	Replacement 20 E/F bolts for all > 35 HRC critical bolting ordered	List by rig the % of API 20 E replacement bolts ordered	100%	100%
2	Replacement 20 E/F bolts for all > 35 HRC critical bolting installed	List by rig the % of API 20 E bolts installed on the BOP	100%	100%
3	Rig Procedure for torqueing of critical bolting	Can include example rig procedure	Completed - July 15, 2014	Complete
4	Internal process for enhanced failure reporting of critical bolts (IOGP Failure reporting procedure)	Can include example procedure for compliance with IOGP Failure reporting	Completed - July 20, 2016	Completed - May 8, 2015
5	MTR review for installed critical bolting:	Can include letter from OEM, example of MTR audit	Completed - September, 2016	In-progress
	- OEM SOF critical bolting per relevant specification		Completed - September 15, 2016	Completed - February 24, 2016
	- MTRs per relevant specification		Completed - July 12, 2017	Completed - February 24, 2016
	- Bolting audit to verify MTR information		Completed - April 7, 2017	In-progress
6	Preventative maintenance (PM) for BOP bolting API Std 53	Can include PM for BOP bolting maintenance. Example of NDE performed on BOP bolts	Completed - March 15, 2016	Completed - December 9, 2015
	2018-2023 Deliverables			
A1	Critical bolting API 20 E/F replacement bolts ordered	List by rig % of bolts ordered	0%	0%
A2	Critical bolting API 20 E/F replacement bolts installed	List by rig % of bolts installed/replaced	0%	0%

From: scott.angelle@bsee.gov
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When Thu Feb 21, 2019 1pm – 2pm Eastern Time - New York

Video call

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Video call

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Subject: BAST Meet ng @ Tue Feb 26, 2019 10am - 11am (EST) (hopkinsh@api.org)
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action VIEW&eid NTImZzFpNnNuODJzYmcwcjBqZXNsa3M0bzMgaG9wa2luc2hAYXBpLn9yZw&tok MjJjc2NvdHQyYW5nZWxzZUBic2VILmdvdjRiZGEyNDBiMWJiNGNmNDk5YzAwZWZzMDMzYjdlYWQIM2Y5NzhmMGM&ctz America%2FNew_York&hl en&es 0>

BAST Meeting
When Tue Feb 26 2019 10am -- 11am Eastern Time - New York
Video call

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action RESPOND&eid NTImZzFpNnNuODJzYmcwcjBqZXNsa3M0bzMgaG9wa2luc2hAYXBpLn9yZw&rst 1&tok MjJjc2NvdHQyYW5nZWxzZUBic2VILmdvdjRiZGEyNDBiMWJiNGNmNDk5YzAwZWZzMDMzYjdlYWQIM2Y5NzhmMGM&ctz America%2FNew_York&hl en&es 0>
- Maybe <<https://www.google.com/calendar/event?>
action RESPOND&eid NTImZzFpNnNuODJzYmcwcjBqZXNsa3M0bzMgaG9wa2luc2hAYXBpLn9yZw&rst 3&tok MjJjc2NvdHQyYW5nZWxzZUBic2VILmdvdjRiZGEyNDBiMWJiNGNmNDk5YzAwZWZzMDMzYjdlYWQIM2Y5NzhmMGM&ctz America%2FNew_York&hl en&es 0>
- No <<https://www.google.com/calendar/event?>
action RESPOND&eid NTImZzFpNnNuODJzYmcwcjBqZXNsa3M0bzMgaG9wa2luc2hAYXBpLn9yZw&rst 2&tok MjJjc2NvdHQyYW5nZWxzZUBic2VILmdvdjRiZGEyNDBiMWJiNGNmNDk5YzAwZWZzMDMzYjdlYWQIM2Y5NzhmMGM&ctz America%2FNew_York&hl en&es 0>
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action VIEW&eid NTImZzFpNnNuODJzYmcwcjBqZXNsa3M0bzMgaG9wa2luc2hAYXBpLn9yZw&tok MjJjc2NvdHQyYW5nZWxzZUBic2VILmdvdjRiZGEyNDBiMWJiNGNmNDk5YzAwZWZzMDMzYjdlYWQIM2Y5NzhmMGM&ctz America%2FNew_York&hl en&es 0>
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BAST Meeting
When Tue Feb 26, 2019 10am – 11am Eastern Time - New York
Video call

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Calendar scott.angelle@bsee.gov
Who • scott.angelle@bsee.gov - organizer
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action VIEW&eid=NTJmZjFpNnNuODJhYmNwYjBqZXNa3M0bzMgZXZhbBvZmZaG9yZW9wZXJhdG9ycy5jb20&rs=MjJjc2NvdHQuYW5uZW5wZmZlUic2VILmdvdjZlMTU4MmZkZjI1NzIyY0NjZlYkzNzBjYTM5NWZjMzE2ZGRjZjE&ctz=America%2FNew_York&hl=en&es=0>

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• olea@ios.doi.gov

Going (evan@offshoreshoreoperators.com)? Yes -<<https://www.google.com/calendar/event?>
action RESPOND&eid=NTJmZjFpNnNuODJhYmNwYjBqZXNa3M0bzMgZXZhbBvZmZaG9yZW9wZXJhdG9ycy5jb20&rs=1&tok=MjJjc2NvdHQuYW5uZW5wZmZlUic2VILmdvdjZlMTU4MmZkZjI1NzIyY0NjZlYkzNzBjYTM5NWZjMzE2ZGRjZjE&ctz=America%2FNew_York&hl=en&es=0>
- Maybe -<<https://www.google.com/calendar/event?>
action RESPOND&eid=NTJmZjFpNnNuODJhYmNwYjBqZXNa3M0bzMgZXZhbBvZmZaG9yZW9wZXJhdG9ycy5jb20&rs=3&tok=MjJjc2NvdHQuYW5uZW5wZmZlUic2VILmdvdjZlMTU4MmZkZjI1NzIyY0NjZlYkzNzBjYTM5NWZjMzE2ZGRjZjE&ctz=America%2FNew_York&hl=en&es=0>
- No -<<https://www.google.com/calendar/event?>
action RESPOND&eid=NTJmZjFpNnNuODJhYmNwYjBqZXNa3M0bzMgZXZhbBvZmZaG9yZW9wZXJhdG9ycy5jb20&rs=2&tok=MjJjc2NvdHQuYW5uZW5wZmZlUic2VILmdvdjZlMTU4MmZkZjI1NzIyY0NjZlYkzNzBjYTM5NWZjMzE2ZGRjZjE&ctz=America%2FNew_York&hl=en&es=0>
more options - <<https://www.google.com/calendar/event?>
action VIEW&eid=NTJmZjFpNnNuODJhYmNwYjBqZXNa3M0bzMgZXZhbBvZmZaG9yZW9wZXJhdG9ycy5jb20&tok=MjJjc2NvdHQuYW5uZW5wZmZlUic2VILmdvdjZlMTU4MmZkZjI1NzIyY0NjZlYkzNzBjYTM5NWZjMzE2ZGRjZjE&ctz=America%2FNew_York&hl=en&es=0>
Invitation from Google Calendar -<<https://www.google.com/calendar?>>
You are receiving this courtesy email at the account evan@offshoreshoreoperators.com because you are an attendee of this event.
To stop receiving future updates for this event, decline this event. Alternatively you can sign up for a Google account at <https://www.google.com/calendar/> and control your notification settings for your entire calendar.
Forwarding this invitation could allow any recipient to modify your RSVP response. Learn More -<<https://support.google.com/calendar/answer/371359#forwarding>> .

From: scott.angel@bsee.gov
To: evan@offshoreoperators.com; hopk.nsh@apl.org; olea@ios.doi.gov; staci.king@bsee.gov
Subject: Invitation: BAST Meet ng @ Tue Feb 26, 2019 10am - 11am (EST) (olea@ios.doi.gov)
Attachments: [bte.ics](#)

more details > <https://www.google.com/calendar/event?action=VIEW&eid=NTJmZzFpNnNuODJzYmcwYBqZXNa3M0bzMgb2l1YUBpb3MuZG9pLmdvdg&tok=Mjljc2NvdHQuYW56ZWxsZUBic2VILmdvdjZzMjY4NjUyZml0NDNiNzY2NTdiOWZjZTU4YWlkOTc0YTBiN2Y4NGI&ctz=America%2FNew_York&hl=en&es=1>

BAST Meeting
When Tue Feb 26, 2019 10am – 11am Eastern Time - New York

Video call  >
Calendar <https://ios.doi.gov>

Who • scott.angel@bsee.gov - organizer

• preston.beard@bsee.gov - creator

• evan@offshoreoperators.com

• hopkinsh@apl.org

• olea@ios.doi.gov

• staci.king@bsee.gov

Going (olea@ios.doi.gov)? Yes <https://www.google.com/calendar/event?action=RESPOND&eid=NTJmZzFpNnNuODJzYmcwYBqZXNa3M0bzMgb2l1YUBpb3MuZG9pLmdvdg&rst=1&tok=Mjljc2NvdHQuYW56ZWxsZUBic2VILmdvdjZzMjY4NjUyZml0NDNiNzY2NTdiOWZjZTU4YWlkOTc0YTBiN2Y4NGI&ctz=America%2FNew_York&hl=en&es=1>

- Maybe <https://www.google.com/calendar/event?action=RESPOND&eid=NTJmZzFpNnNuODJzYmcwYBqZXNa3M0bzMgb2l1YUBpb3MuZG9pLmdvdg&rst=3&tok=Mjljc2NvdHQuYW56ZWxsZUBic2VILmdvdjZzMjY4NjUyZml0NDNiNzY2NTdiOWZjZTU4YWlkOTc0YTBiN2Y4NGI&ctz=America%2FNew_York&hl=en&es=1>

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more options > <https://www.google.com/calendar/event?action=VIEW&eid=NTJmZzFpNnNuODJzYmcwYBqZXNa3M0bzMgb2l1YUBpb3MuZG9pLmdvdg&tok=Mjljc2NvdHQuYW56ZWxsZUBic2VILmdvdjZzMjY4NjUyZml0NDNiNzY2NTdiOWZjZTU4YWlkOTc0YTBiN2Y4NGI&ctz=America%2FNew_York&hl=en&es=1>

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From: scott.angelle@bsee.gov
To: hopkinsb@api.org; evan@offshoreoperators.com; staci.king@bsee.gov; olea@ips.doi.gov
Subject: Invitation: BAST Meeting @ Tue Feb 26, 2019 10am - 11am (EST) (staci.king@bsee.gov)
Attachments: [invite.ics](#)

more details > <https://www.google.com/calendar/event?action=VIEW&eid=NTJmZjFpNmNuODJzYmcwcyBqZXNsa3M0bzMgc3RhY2kua2luZ0Bic2VILmdvdg&tok=MjJjc2NvdHQuYW5uZWxsZUBic2VILmdvdjA2NWUyNDA4MjgyZTU2MjkyNm0ZDE4MGEwZDBjYjU4NjlyNmRmMGY&ctz=America%2FNew_York&hl=en&es=1>

BAST Meeting
When Tue Feb 26 2019 10am -- 11am Eastern Time - New York

Video call <https://bsee.gov>

Calendar [staci.king@bsee.gov](https://bsee.gov)

Who • scott.angelle@bsee.gov - organizer

- preston.bear@bsee.gov - creator
- hopkinsb@api.org
- evan@offshoreoperators.com
- staci.king@bsee.gov
- olea@ips.doi.gov

Going (staci.king@bsee.gov)? Yes <https://www.google.com/calendar/event?action=RESPOND&eid=NTJmZjFpNmNuODJzYmcwcyBqZXNsa3M0bzMgc3RhY2kua2luZ0Bic2VILmdvdg&rst=1&tok=MjJjc2NvdHQuYW5uZWxsZUBic2VILmdvdjA2NWUyNDA4MjgyZTU2MjkyNm0ZDE4MGEwZDBjYjU4NjlyNmRmMGY&ctz=America%2FNew_York&hl=en&es=1>

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- No <https://www.google.com/calendar/event?action=RESPOND&eid=NTJmZjFpNmNuODJzYmcwcyBqZXNsa3M0bzMgc3RhY2kua2luZ0Bic2VILmdvdg&rst=2&tok=MjJjc2NvdHQuYW5uZWxsZUBic2VILmdvdjA2NWUyNDA4MjgyZTU2MjkyNm0ZDE4MGEwZDBjYjU4NjlyNmRmMGY&ctz=America%2FNew_York&hl=en&es=1>

- No <https://www.google.com/calendar/event?moreoptions=>https://www.google.com/calendar/event?action=VIEW&eid=NTJmZjFpNmNuODJzYmcwcyBqZXNsa3M0bzMgc3RhY2kua2luZ0Bic2VILmdvdg&tok=MjJjc2NvdHQuYW5uZWxsZUBic2VILmdvdjA2NWUyNDA4MjgyZTU2MjkyNm0ZDE4MGEwZDBjYjU4NjlyNmRmMGY&ctz=America%2FNew_York&hl=en&es=1>

more options > <https://www.google.com/calendar/event?action=VIEW&eid=NTJmZjFpNmNuODJzYmcwcyBqZXNsa3M0bzMgc3RhY2kua2luZ0Bic2VILmdvdg&tok=MjJjc2NvdHQuYW5uZWxsZUBic2VILmdvdjA2NWUyNDA4MjgyZTU2MjkyNm0ZDE4MGEwZDBjYjU4NjlyNmRmMGY&ctz=America%2FNew_York&hl=en&es=1>

action VIEW&eid=NTJmZjFpNmNuODJzYmcwcyBqZXNsa3M0bzMgc3RhY2kua2luZ0Bic2VILmdvdg&tok=MjJjc2NvdHQuYW5uZWxsZUBic2VILmdvdjA2NWUyNDA4MjgyZTU2MjkyNm0ZDE4MGEwZDBjYjU4NjlyNmRmMGY&ctz=America%2FNew_York&hl=en&es=1>

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Forwarding this invitation could allow any recipient to modify your RSVP response. Learn More <<https://support.google.com/calendar/answer/37135#forwarding>> .

From: [Holly Hopkins](#)
To: scott.angelle@bsee.gov
Subject: Accepted: Invitation: BAST Meeting @ Tue Feb 26, 2019 10am - 11am (EST) (hopkinsh@api.org)

From: [API](#)
To: [Scott Angelle](#)
Subject: Register Now - 3rd International Safety Culture Summit
Date: Thursday, February 21, 2019 2:55:28 PM

API_LOGO_HORIZ_CMYK



Please join the American Petroleum Institute at the 3rd International Safety Culture Summit. The Summit brings together industry operators, contractors, service/supply companies, academia and regulators together to facilitate collaboration and drive continual improvement.

Conference topics include:

- How to build a world class safety culture
- Improving safety culture through industry collaboration
- How regulators can support a positive safety culture
- Addressing the current gaps in our knowledge
- Seven safety culture improvement strategies
- Redefining safety for a rapidly changing business environment
- On the right track? An examination of SMS in rail compared to other modes
- Regulatory Excellence: The role of safety culture
- Safety culture assessment and improvement
- Maintaining a positive safety culture during downsizing

Join safety experts from the oil and gas industry and enjoy learning about the latest developments, sharing insights, and networking with other safety professionals. A separate exhibition area will host companies from the safety industry.

Who Should Attend:

- Safety Directors
- Facilities Directors
- EHS Managers
- Fleet Managers
- Training Managers
- Operations Staff
- Safety Coordinators
- Production Supervisors
- Environmental Specialists
- Risk and Compliance Specialists
- Business Owners
- Logistics Managers
- Occupational Health and Safety Professionals
- Emergency Managers
- HAZMAT Specialists
- HAZMAT Coordinators
- Industrial Hygienists
- Emergency Response Specialists

WHEN

5 June, 2019 - 6 June, 2019

WHERE

Marriott Marquis Chicago

2121 South Prairie Avenue, Chicago, Illinois 60616, USA

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6 June, 2019

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From: [Scott Angelle](#)
To: [Holly Hopkins](#)
Date: Tuesday, February 26, 2019 9:14:11 PM

Thank you for your research on BAST !

Sent from my iPhone

From: [API](#)
To: [Scott Angelle](#)
Subject: Register Now - 3rd International Safety Culture Summit
Date: Thursday, March 14, 2019 12:02:31 PM

API_LOGO_HORIZ_CMYK



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Keynote Speaker Confirmed:

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From: [API](#)
To: [Scott Angelle](#)
Subject: Program Now Available - 3rd International Safety Culture Summit
Date: Thursday, April 4, 2019 12:02:25 PM

2019-104 API 100 Year Feature Banner Carousel Cvent_590x80_WHITE



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From: [Center for Offshore Safety](#)
To: scott.angelle@bsee.gov
Subject: 2019 COS Safety Leadership Awards: Submit Your Nominations
Date: Thursday, April 4, 2019 3:16:58 PM

View this email [in your browser](#).

Center for Offshore Safety Logo





Submit Your Nominations for the 2019 Safety Leadership Awards

[Safety Leadership Awards - Now Accepting Applications](#)



The Center for Offshore Safety (COS) draws lessons learned from successful safety programs, and stimulates cooperation amongst industry to enhance the collective knowledge of the oil and gas industry. In this spirit, COS recognizes operators and contractors who are willing to share processes and practices that have enhanced leadership, communication and teamwork to improve safety management.

The top three finalists in each COS reward category will be invited to present at the **2019 COS Forum on September 17 and 18**. Forum attendees will be given the opportunity to vote, and the awards will be presented to the winners at the COS Forum luncheon on September 18, 2019. **Nomination forms are due by Friday, July 26, 2019**. We encourage all companies with operations in the U.S. offshore oil and gas industry to submit a nomination!

 [Download Nomination Form](#) 

Center for Offshore Safety
19219 Katy Freeway | Suite 175 | Houston, TX 77094 | USA

Phone: 832-495-4925 | Fax: 832-495-4936

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2019-091



From: [Scott Angelle](#)
To: [Holly Hopkins](#)
Date: Thursday, April 11, 2019 5:32:54 PM

Thank you for commitment to safety and environmental sustainability.
I hope you found my presentation on target. Thank you

Sent from my iPhone

From: [Holly Hopkins](#)
To: [Scott Angelle](#)
Subject: Re:
Date: Friday, April 12, 2019 8:13:22 AM

Great to see you yesterday. I thought your presentation was very much on point and was well received. Have a great weekend.

----- Original message -----

From: Scott Angelle <scott.angelle@bsee.gov>
Date: 4/11/19 5:33 PM (GMT-05:00)
To: Holly Hopkins <hopkinsh@api.org>
Subject:

Thank you for commitment to safety and environmental sustainability.
I hope you found my presentation on target. Thank you

Sent from my iPhone

From: [API](#)
To: [Scott Angelle](#)
Subject: Program Now Available - 3rd International Safety Culture Summit
Date: Tuesday, April 16, 2019 10:32:13 AM

2019-104 API 100 Year Feature Banner Carousel Cvent_590x80_WHITE



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